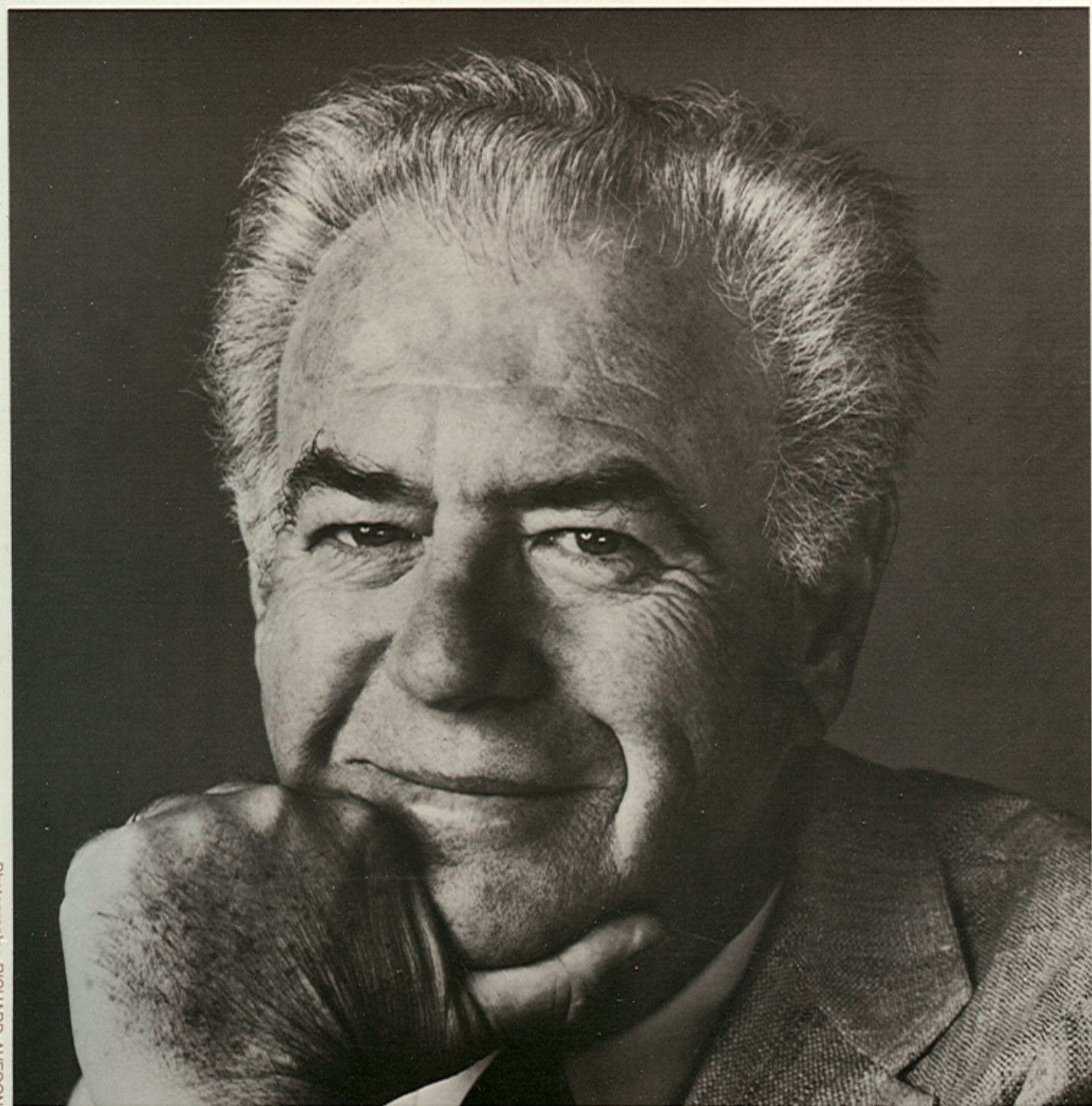


arranged by
Nelson Riddle



Photography: RICHARD AVEDON

**THE DEFINITIVE STUDY OF ARRANGING
BY AMERICA'S #1 COMPOSER, ARRANGER AND CONDUCTOR**

arranged by
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ARRANGED BY NELSON RIDDLE

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DEDICATION

Irene Kahn Atkins, a long-time friend of Naomi's and mine, did the great bulk of the typing necessary to bring this book into being. An author herself and born into the musical family of Grace and Gus Kahn, she viewed each sentence with a constructively critical eye. Her tragic death occurred before the book was completed, but I feel now that the book is published, she is nodding and smiling her approval from some distant place.

Naomi Riddle, as well as being my wife, is my best friend. It is to her I owe the gentle prodding, or "let's get on with it" that enabled me to complete this book.

FOREWORD

— Dozens of artists, hundreds of recording sessions, thousands of score pages, many, **many** recordings covering a period of perhaps thirty years (so far), and extending backward from that point to a time of preparation encompassing nearly another twenty —

It would seem that no one would need all that time to know what I know, and the purpose of this book is to shorten (to a considerable degree) the period of preparation needed to become a capable arranger.

An arranger occupies, in music, that shifting — almost indefinable — ground between an orchestrator and a composer. A skillful arranger needs to be both; he often has more freedom than a true orchestrator, yet seldom as much as a full-blown composer.

I cannot escape telling something of orchestration, since an arranger works with instruments belonging to the orchestral family. (I will not try to teach orchestration as a separate study, as there are many excellent books on the subject, including those of Rimsky-Korsakov and Forsythe.)

I also cannot avoid including a reference to composition, since the arranger who hopes to achieve that enviable quality called "individuality" must be inventive — in his introductions, his counter melodies and, hardest of all (at least for me), his endings!

A unique, "catchy" figure or phrase, which, in its most successful form, becomes an inseparable part of the arrangement of someone else's melody is, in reality, a miniscule creation, the merest scrap of composition, but composition nevertheless.

An introduction, which sets the scene for the composer's melody and the lyricist's words (yet has nothing to do with the structure of that melody), is composition, subordinate, perhaps, but creative.

I have tried to include in this book all sorts of ideas about the art of arranging, only some of which I have had the opportunity to learn in books. The information herein was, for the most part, collected through the "trial and error" method. The successful experiments were added one by one to a slowly growing assortment of valuable tools, each to be used as the occasion demanded; the errors were consigned to another collection of unworkable, impractical devices never to be used again. Each of you will have to make your own joyous discoveries, your own dismal mistakes, and develop the perception to tell one from the other.

One of the difficulties in planning this book was the selection of a melody that could be used time and again to illustrate the many points of arranging and orchestration which will arise by the dozens throughout various chapters.

My wife, Naomi suggested **Frère Jacques**, the French nursery rhyme melody known in English as **Brother John**. Its simplicity and the repetitive phrases characteristic to it made for an ideal choice. The simple structure of **Brother John** leaves the arranger room to add considerable adornment, while reiteration of the first, second, third and fourth phrases afford a rare opportunity for variation.

The examples herein (except those devoted to the demonstration of simple voicings) are full of altered harmonies, passing tones, suspensions, etc.; and **deliberately so** — the object being to illustrate the latitude and freedom available to the arranger, and also to emphasize the scope of imagination which he must develop in order to have his arrangements sound unique, or “special,” and not like everyone else’s.

Arranging could be likened to the constant use of a “Theme and Variation” exercise, with the theme changing from arrangement to arrangement, but the need for inventive manipulation of colors and lines ever-present. The examples in this book could be likened to this study of “Theme and Variation” — the theme “Brother John,” but the variations endless. Each example contains, beside the basic message, carefully marked dynamics and tempos. In the estimation of many fine writers, tempos and dynamics, if carefully thought out and plainly indicated, afford a very important addition to any piece of music, provided of course, the arranger insists on their observance by the instrumentalists.

It is hoped that you, the reader, will take full advantage of the way these examples are projected, and will first harmonize a passage in the most appealing manner possible, and finally present your craftsmanship in the most favorable light by indicating the shadings and tempo.

A working knowledge of theory and harmony is a prerequisite to the assimilation of this book. The ability to notate an idea and to arrive at a simple, workable series of chords to harmonize a melody is also necessary before any of the material contained herein can be of benefit.

I don’t know whether it’s permissible to say “In looking back” in a section of a book entitled “Foreword,” but here goes!

“In looking back” I feel that **every** moment I spent in study, whether it was **formal** study or the “trial and error” experimentation I did so much of, was very worthwhile. The feeling of pride and achievement a young arranger derives from having his work played for the first time is a thrill with few equals.

One seldom can view things in retrospect without a sizeable list of regrets, a feeling of having made a wrong decision here and there, sometimes a quick view of a series of negative happenings impelled, it would seem, by an adverse move which in true example of the “domino theory” triggered several other negative events.

I feel that in line with this latter reference, my eagerness to accept any and all assignments when finally, at the ripe old age of thirty, things began to go my way, deprived me of several years which could have been given over to additional formal study.

Mario Castelnuovo-Tedesco, my foremost instructor, was always there, ready to help, but after a couple of years with him, I permitted the onrush of commercial assignments to interfere with my continuing with him. I could have studied more orchestration, and then have gone on to a few years of composition. The skills thus acquired would have given me the tools to transcend the label “arranger” and perhaps have gained me an **earlier** and **firmer** footing in the composition of film scores, which were (and are) my first love, offering, as they do, a greater opportunity for imagination, and being, by their very nature, less confining in scope than is arranging.

Victor Bay, who taught me musicology and conducting, could have seen more of me if I had been less willing to take on the world at the end of a pencil — which brings up an interesting side-subject.

Every arranger should, to some extent at least, be familiar with basic conducting techniques. He (or she) can rehearse an orchestra a great deal more efficiently if they know how to **start**, **control**, and **stop** a group of playing musicians. Merely “beating off” a band with four evenly spaced counts or assigning the drummer to do so is really taking the “easy way” out. The arranger should have a working knowledge of how to guide an orchestra through rubato (out of tempo) passages, and how to accompany a singer **colla voce**, in recordings and live performances.

The ability to do so insures a well-rehearsed orchestra playing an arrangement as the arranger intended it to be played, and also, to be very realistic and practical, helps prevent another conductor, who perhaps cannot arrange, from stealing the limelight for himself.

In the manly art of boxing it’s called “keep your hands up.” Don’t be deceived; arranging is as competitive as boxing any day, and what goes on in the “arranging ring” is not controlled by any “Marquis of Queensbury” precepts.

So, young hopefuls, with pencils at the ready, let’s get started!

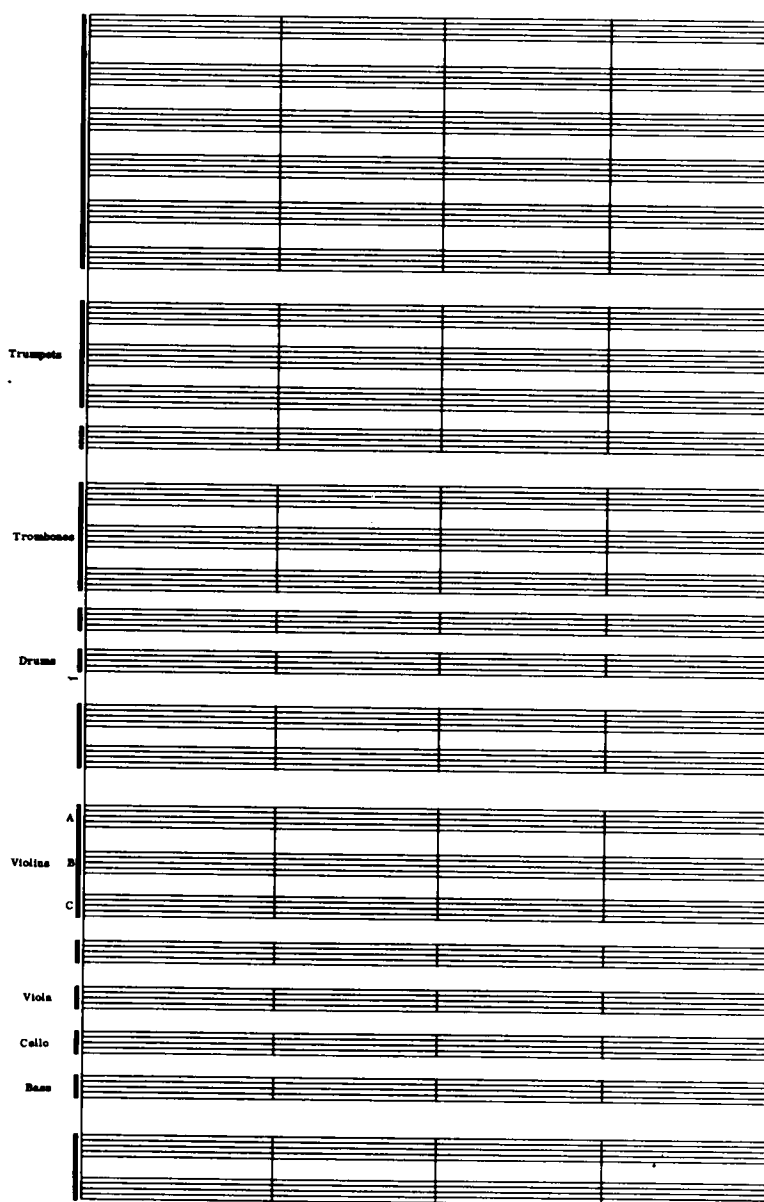
CHAPTER I

Preparation

1) Score Paper

Score paper, at least in the United States, is purchasable in pads of forty to fifty sheets each or simply loose or unbound. The paper I find most useful for arranging assignments looks like this:

EX. 1



John Riddle

It is a four-bar page. Eight-bar pages are available, but seem cumbersome and easily torn or wrinkled. Wear and tear on one's eyes is a very important factor, and I find that score paper other than white is far more restful to stare at. Soft yellow, or a pale green are available, both colors on dull, non-gloss paper. One last word about paper: there are pads of "sketching" paper available in the same green or yellow tints that score paper comes in.

2) How to Set Up a Score Page

Reading from the upper left hand corner, you see that six staves are unmarked. These are for the woodwinds, the top staff usually being reserved for a vocal line if the arrangement is a vocal accompaniment. Nothing is more disconcerting than a vocal background arrangement minus the vocal line, since you would have to do some rapid bookkeeping to find out which bar of the vocal melody is in progress at the time of the playing of any given bar of the arrangement. It is far better to write in the singer's line, and at the same time, number the pages and bars, before a single note of the background is written. The actual notating of the melody will give you a clearer idea of the form and characteristics of the song to be arranged. Try, as you write down the melody, to learn (or "hear") at the same time, the harmonic structure of the song.

Very seldom is the professional copy printed in a key comfortable to the singer, so you will have to learn the difficult, but mechanical and therefore attainable art of transposing.

If a song is written in the key of "F" (containing one flat, "B \flat "), and your arrangement, to accommodate the singer, must be in the key of "D" (two sharps, "F \sharp " and "C \sharp "), the melody - chords and all - have to be dropped a tone and a half, or a minor third.

EX. 2



In doing so, the key signature must be changed from one flat to two sharps. Each of the instruments to be scored have first to be accommodated in the new key, and the results indicated on the left margin of the first score page.

An example of a transposition from "F" to "D" is shown here, with the original melody and chords changed to fit the new key:

EX. 3

A transposition upward is just as frequently called for, and is accomplished in the same fashion. Whatever the interval of difference between the original "printed" key of the song copy and the key of the arrangement, that interval is constant and must be maintained throughout the transposition. The interval is also calculated in the renaming of the chords which constitute the harmony. In example 2, the first chord "F", becomes "D" in the new key, the fourth chord "Dm7", becomes "Bm7" and so on:

If time is available, a good habit to acquire is the copying of the lyrics under the melody line. An idea of what the song says is often useful in "dreaming up" an appropriate introduction. Since certain words are sung over certain bars of music, those bars of music can often be constructed to fit the mood of the word or phrase, almost like fitting a musical accompaniment for poetry or prose.

Another value to sketching in the melody is to get an idea of where to thin out the motion, and/or the thickness of the accompaniment. It is an old rule of thumb that where the melody is "busy" (full of motion), the background should be just the opposite. Similarly, where the melody is "unbusy" (resting on long, sustained notes - for instance, at the end of a phrase), the accompaniment can render things more interesting by moving and supporting the melody into its next phrase.

Equally important, when the melody is in a middle or low register, and the singer less likely to be able to project, the background must be sufficiently transparent, so as not to interfere with the soloist. Conversely, when the singer is moving toward a peak in the song, a degree of support is needed to help the singer "make the point".

Continuing down the score page (Example 1), we see several staves assigned to trumpets, and next to trombones; but these can be regrouped by putting two trumpet parts on one staff, thus leaving a staff or two between trumpets and trombones for the insertion of French horn parts (or even a tuba) if needed.

Moving down a bit further, we see a drum staff, which is all well and good if there is but one drummer. In case of an extra percussion or two, they can be easily assigned the staves above the drums by consolidating the trombone parts to three, or even two staves.

The next staff down is a "double staff" reserved for a keyboard instrument, such as a harp or piano; but in a pinch, this double staff can be used for choir parts - girls on the upper, boys on the lower - and the double staff at the very bottom of the page can be used if there is only one keyboard instrument.

Next are the violins, "A", "B", and "C". Many arrangers divide the violins into many more parts, a practice I am greatly opposed to; since, unless there are many violins, it vitiates a very delicate sound in the orchestra. The simpler, and more clear-cut the violin part, the better chance they have of being heard over the rest of the orchestra, especially over the brass. Two parts, three parts, or at the most, four parts are sufficient to divide the violins, and still let them retain their vitality as a section.

Next down, below the "C" violin staff, is an open line, often used for guitar. In the case of two guitars, simply consolidate the violins to two lines. Even in four-part writing, they can be interlocking, such as:

EX. 4



The violas, the celli, and the bass, have one line each, and there is not much expansion or contrast possible here, but all-in-all, I still find this particular size and design of score paper to be quite useful.

3) Necessary Equipment

Pencils should be of very soft lead, so that a minimum of pressure is needed to convey the marks to the paper, but the lead should be dense enough to be able to carry a sharp point, since clarity is essential. My favorite pencil is the Blackwing #602, by Eberhard Faber, but there must be many brands equal or superior to the Blackwing. Another important feature of a pencil is its eraser. It should be firm, though not dry, and since soft lead is quite easily blurred, it should be an eraser that makes a clean sweep. Some arrangers prefer a mechanical pencil with a refillable reservoir for lead, but I find that the lead in these pencils is quite often brittle, and the eraser wears out after a couple of packets of lead have been expended.

The closest adjunct to a pencil is the sharpener, and the electric pencil sharpener is quite a boon. Just keep it clean and free of wood shavings.

For me, the most practical working surface has been a drafting table, such as those draftsmen and architects use. They are inexpensive, and usually available in any store carrying art supplies. There are clip-on lamps for such tables with adjustable necks, so that the light can be made to "hit" the score paper without projecting an annoying shadow. A little experimentation will give you the right angle of illumination for your particular set of eyes. As far as the best light bulb to use, I find that a 100-watt bulb seems to produce enough light to see clearly without glaring.

"Bad news" for my tired eyes has always been florescent lights, since the light is too intense and painfully "white". Natural light has always been more restful for me. The fact is: I am a day person, and the field of arranging abounds with "night people". However, if you're like me, and prefer to work in daylight, a southwestern exposure is best; so if you have any choice in home or office, place your table near a window facing the Southwest.

In scoring film, a stop watch is essential. Actually, even in arranging, where the music need not be measured so carefully, a stop watch running while you are humming the tune will give you a good idea of the tempo most attractive for the song and the arrangement before a drummer has a chance to make this important decision for you (A little notation - two bars = .04, four bars = .05). This is invaluable when trying to recapture in the recording studio that precious mood you caught while scoring the arrangement.

A metronome is a slightly more obvious way of doing the same thing, and a metronomic stop watch, unless you get a cranky one, is probably best of all.

My rather long-winded treatise of vocal lines and lyrics, and transposition all comes to life if I develop the habit of "sketching" before I score. In the busy days at Capitol Records, I was hard pressed to find time to write the arrangement itself, let alone sketch first. I considered it laborious and, in a way, doing the same work twice. Nevertheless, sketching has its merits, and if it helps you plan out the pace of what you are doing, if it aids you in achieving peaks and valleys at certain effective intervals, by all means do so. It's just another way to apply thought and good taste to your work.

CHAPTER 2

How to Set Ideas On Paper

1) Harmonization of a Melody

As an arranger, your task is to set forth another person's composition in the most attractive and effective manner possible within the combination of instruments available.

The composition you are given to arrange consists of a melody, and almost always, a set of chords which indicates how the melody is to be harmonized. Your flexibility and dexterity with chords will determine how speedily and effectively you can arrange a given composition.

First of all, you should become familiar with the meaning and interpretation of **chord symbols**. They were originally designed to enable a banjoist or ukelele player to accompany himself while singing a song. Later, chord symbols served the same purpose for guitarists, and in that process, have become increasingly complicated. It is important, however, that you learn to read chord symbols fluently, since many times they are the only available clues to the composer's ideas. Not too long ago, all songs were available in piano form, but in recent years, these have been frequently reduced to words, melody, and chord symbols. In most cases, where chord symbols indicate the harmony, all these elements are on one line, thus eliminating another important aide, the bass line.

In order to facilitate this short-cut, many chord symbols now indicate the bass note. For example, "Gm7/C" means that a "Gm7" is to be played in the treble, but "C" instead of "G" is to appear in the bass. Example 5 will give you a chart of the more common chord symbols in use, and next to each, the written chord each symbol represents. All these chords are "F" chords in one form or another. It would be good practice for you to write them out in several keys, since transposition is a very necessary skill to an arranger.

EX. 5

F	F ⁷	F ⁷ (b ⁹)	F ⁷ (+ ⁵)
F/C	F/A	F ⁷ (b ⁹)	F ¹³
F ^m ⁷	F ^m ⁹	F ^m ⁷ (b ⁹)	F ⁷ /E ^b
F ⁷ (+ ⁵)	F ⁹	F ⁷ (+ ⁵)	F ^m ⁷ /A ^b

The harmonization of **FRERE JACQUES (BROTHER JOHN)** in a simple triad form.

EX. 6

You will notice that the chord symbols have been added above the treble clef and that the bass line has been included. The first of these symbols indicates that the chord is to be a simple "F" chord; the root "F", being the melody note, the 5th, "C"; and the 3rd "A" added below to form a triad.

The second symbol tells us that the chord is a "Gm7", with a "C" in the bass. This chord looks, on paper at least, to be a "Gm" triad with the melody, the root "G", the 5th "C", and the 3rd "Bb". However, the notation "Gm7" 'steers' the chord toward an implied "F", thereby eliminating the possibility of an E being added to the chord, which would make it a "Gm6". Playing the piece on the piano will show you the difference in sound, and make clear the fact that the "Gm7" (which in this case takes the place of a "C7sus4") is a more charming approach to the harmonization of the melody than a simple "C7" would have been. The bass note of "C" enables the chord to fulfill the same function as a "C7", yet in a subtly nicer way.

Another advantage to using the "Gm7/C" instead of the more direct 7th is that the former leads more naturally into chord #3, an "Fmaj7". This is a most attractive chord: "A" the melody, "E" the major 7th, and "C" the 5th. Chord #4 is a "Gm7/C". Its main use is as a replacement for the "F" chord which would normally appear at this point in the harmonization. Since bar 3 starts with an "F" chord, and pretty well must do so, ending bar 2 with the same chord would place two "F" chords (same inversion) side-by-side, making for a "dull spot" in the harmony.

Bars #3 and #4 are more conventionally harmonized than bars 1 and 2, but the fact that each two-bar phrase, though identical melodically, is different harmonically - justifying each and making the overall effect of the first four bars more interesting than if the chords of bars 1 and 2 were repeated in bars 3 and 4.

Proceeding with bar 5, we see an "F" chord, a "Gm7/C" chord, and in bar 6, an "Fmaj7". The "Gm7/C" in bar 5 again makes the approach to the "Fmaj7" easy and logical, whereas in bar 7, the "C7" makes the "F" in bar 8 the best choice. Playing these sequences on the piano will help clarify my explanation.

In bar 9, each note of the melody carries with it a different triad, the last one "Gm7/C" leading downward (this time more smoothly) to an "F" chord in bar 10. Notice that an upward resolution of the "Gm7" leads to an "Fm7", and a downward resolution of the same chord is a straight "F" chord.

In bar 11, the same situation exists as did in bar 9, namely that four chords are needed, one for each note of the melody. In this case, however, the sequence is handled differently. The first chord in bar 11 is an "Am" chord, which automatically forces a different solution. Here, in contrast to bar 9, we wander into a sharp key, "G". But, instead of using the "D7+5" to return to "G", we use the first chord in bar 12, a "G9", as a link to our final destination. . . the original key of "F". The "Bb" chord in the last half of bar 12 is another step on our return to the key of "F" in bar 13.

Bars 13 and 14 form a **false** resolution, in order to save the final resolution for bars 15 and 16.

One of the ideal characteristics of **BROTHER JOHN** is that each phrase is stated, and then repeated. This repetition gives the arranger an opportunity to come up with a different harmonic solution for each of the phrases, which are in pairs throughout the composition. This is a miniscule application of the classic "Theme & Variation" form.

In a sense, arranging is similar exercise to "Theme and Variation". The arranger is given the basic melody, and his ingenuity and skill combine to form an arrangement of the melody. He can slide any number of different backgrounds and treatments under this original melody, as long as he does not hide it or disfigure it with inappropriate or uncomfortable harmonies.

When substituting one of your own chords for a chord belonging to the composer's harmonization, you should make **honestly** sure that it is an improvement, and not merely an "ego trip". In the case of an arrangement consisting of several choruses, it would be best to follow the composer's harmonies for the first chorus, and reserve any changes or variations for the ensuing choruses.

2) Passing Tones

Example 7 shows **BROTHER JOHN** harmonized in a more quasi-religious fashion, with the chords appearing in open (or spread) inversions, and passing tones used to give a feeling of flowing motion:

EX. 7

Handwritten musical score for "BROTHER JOHN" showing a harmonic progression with passing tones. The score is written on five staves. The first staff contains a sequence of chords: F B \flat /E, Fmaj⁹, F \flat , Fmaj⁷ B \flat /E, F B \flat /E, Fmaj⁷ Dm⁹, Dm, Dm⁹, B \flat /D. The subsequent staves show the vocal melody and piano accompaniment with various chords and passing tones. The piano part includes chords like Am, Dm, A⁷/A, A⁷(b⁹), Am⁷ Dm⁷/A, Am⁷ Dm⁷/A, Dm Gm⁷/D, Dm Gm⁷/D, Am⁷ Dm⁷ Gm⁷, Am⁷, F/C, C, C', A⁷/C \sharp A⁷(b⁹)/C \sharp , Dm⁹ Dm, F/E \flat , F(sus⁴)/E \flat , A/E, Dm, F(sus⁴)/E \flat , C(b⁹)/E \flat , F/A, F/B \flat , F/A, Fm⁷ A \flat , Gm⁷, C(sus⁴), C', F(7).

Notice that the movement of the passing tones is "staggered" to provide a different pattern of motion than that of the melody. This device helps to make the piece more interesting than if the harmony moved in "blocks" with the melody. Notice also that each two-bar phrase, though perhaps the same melodically, is treated harmonically in a different fashion. Passing tones should be **most** active when the melody is **least** active. Similarly, when motion is present in the melody, the passing tones should be less numerous as not to detract from the melody.

CHAPTER 3

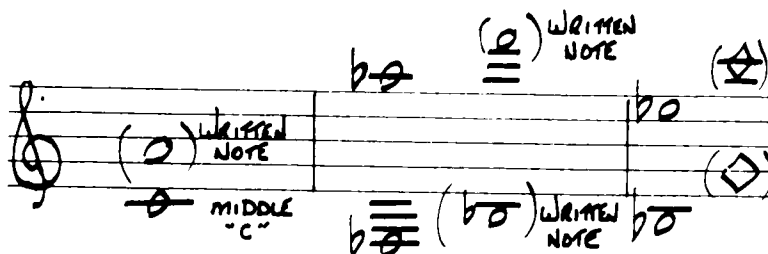
The Woodwind Family

1) Saxophones as a Section

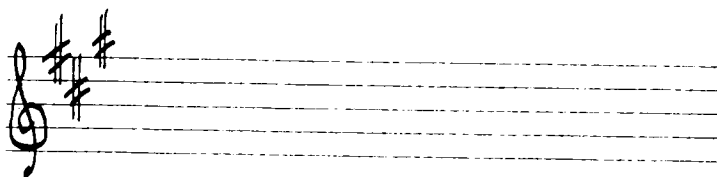
It might seem a waste of time to delineate the use of saxophones in an orchestra, since the changing musical scene seems on the verge of dooming them, as a section, to obsolescence. However, "club" orchestras and variety show bands still use a group of three, four, or five saxes, so it seems appropriate to describe their function.

The smallest section of saxes usually consists of a trio: two E \flat altos, plus one B \flat tenor, though in what was known as "Society Tenor Bands", three B \flat tenors were used. Another utilization of three saxes would be: alto, tenor, and baritone. This mixture affords the most latitude, since it offers depth as well as height. To start with, however; we'll concentrate on the first combination.

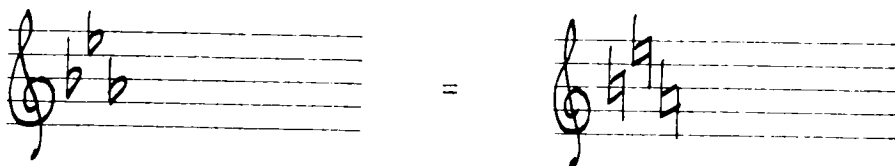
The alto saxophone is a transposing instrument; that is, the "written" note is a prescribed interval from the actual "sounding" note. The chart below shows the note which must be written to achieve the **sound** of Middle C. The chart also shows the range of the instrument. There are two diamond shaped notes included in each chart. These notes indicate the top and bottom of a "solo", or ideal range for each instrument.



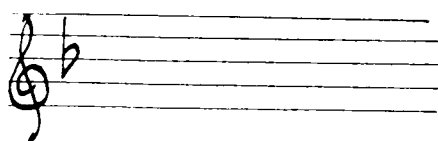
In a score written in "C" concert, the alto sax would acquire three sharps.



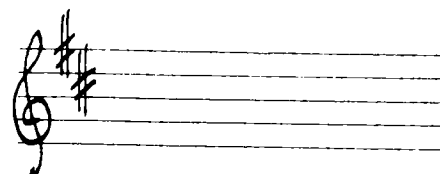
These three sharps, when the score is in a flat key, cancel out the same number of flats.



Or, in the case of a key containing less than three flats; for example "F":



the result is two sharps:

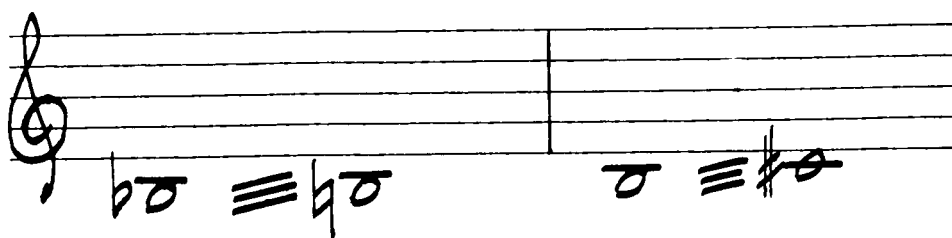


It is far better to write your score in the right key for the various transposed instruments for several reasons:

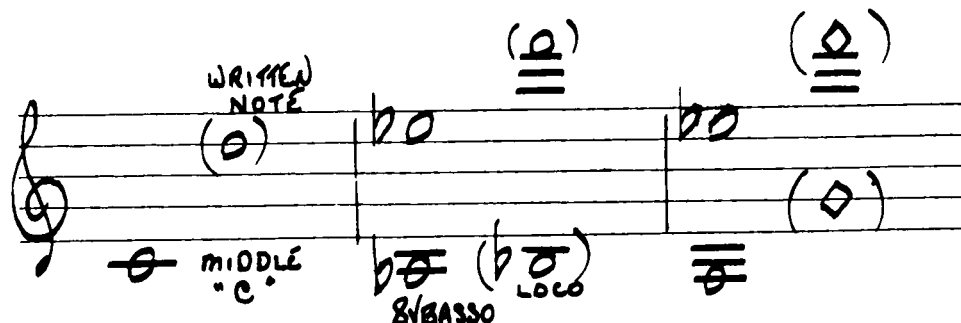
- Writing in transposed keys gives you a closer contact with each instrument's characteristics and capabilities.
- Writing in "concert" score often involves a great number of confusing ledger lines and leaves the transposing to the copyists, who are often too pressed to do this very exacting chore accurately, resulting in wrong notes to be corrected in valuable rehearsal time.

The range of the alto saxophone is considerable, as a glance at the chart will show. It is best, however, to avoid both the very high notes, which are shrill, and the very low notes, which are "tubby" and difficult to blend with the section.

Most trills and "shakes" are possible, the exceptions being:



The B \flat tenor saxophone is a transposing instrument, the transposition being one full tone plus an octave. Middle C, plus the written note which will produce Middle C, are shown below, as is the range of the instrument.



The transposition comes with it an additional two sharps, which are dealt with in exactly the same plus-and-minus fashion as the three sharps of the alto saxophone. "C" concert is, to the tenor sax, the key of "D", and the key of "F" becomes the key of "G" when writing for the tenor.

The range of the tenor sax has the same characteristics as that of the alto sax, it being wise to avoid both extremes.

Trills to avoid are:



An example of how three saxes would play a simply melody is shown here:

EX. 8

Handwritten musical score for SATB choir, titled "ANDANDO". The score is written on ten staves, with the first four staves labeled "ALTO SX", "ALTO SX", "TENOR SX", and "TENOR SX" respectively. The notation includes various musical symbols such as notes, rests, and dynamic markings like *mf* and *f*. The score is organized into measures by vertical bar lines, with some measures containing multiple staves. The overall style is handwritten and appears to be a draft or a personal score.

The same melody, written for three tenor saxes, would look like this:

EX. 9

ANDANTINO

Now we can add a familiar companion to the alto and tenor saxophone, the E \flat baritone sax. The "bary" is also a transposing instrument, the same transposition as the E \flat alto (three added sharps), plus an octave between the **written** note and the **sounding** note:

If we used three saxes, one alto, one tenor, and one baritone sax, they could play this:

EX. 10

ANDANTE

ALTO SX
TENOR SX
BAR. SX
CHORDS
BASS

Handwritten musical score for three saxophones (Alto, Tenor, Baritone) and a bass line, with a chord chart. The tempo is marked **ANDANTE**. The score is written on ten staves. The first four staves are for the saxophones and the bass line. The last six staves are for the chord chart. The music is in 4/4 time and features a mix of eighth and quarter notes, with some rests. The chord chart includes various chords such as F, Gm7, C7, Fm7, Fb, Fm7b9, Eb/F, Bbm7, Am, G7, Gm7b9, and Fb.

If we used 4 saxes (2 alto and 2 tenors), they might play this:

EX. 11

ANDANDO

1. ALTO SX
2. ALTO SX
1. TENOR SX
2. TENOR SX

The score is written for four saxophones (2 Alto and 2 Tenor) and 12 other instruments. The tempo is marked **ANDANDO**. The key signature is one sharp (F major). The time signature is 4/4. The saxophone parts are written in treble clef. The first four staves are for the saxophones, and the remaining 12 staves are for other instruments. The saxophone parts feature a mix of half notes, quarter notes, and eighth notes, often beamed together. Dynamics include piano (p), mezzo-forte (mf), and forte (f). The score ends with a double bar line.

A nice spread for saxophones, using four: two altos, one tenor, and one "bary", is written like so:

EX. 12

ANDANTINO

1ST ALTO SX
2ND ALTO SX
TENOR SX
E^b BAR. SX

The musical score is written for four saxophones: 1ST ALTO SX, 2ND ALTO SX, TENOR SX, and E^b BAR. SX. The tempo is marked ANDANTINO. The score consists of 16 measures. The first four measures feature a melodic line in the 1ST ALTO SX, with the other three parts providing harmonic support using sustained notes and slurs. Measures 5-8 show a more complex texture with multiple voices. Measures 9-12 continue the melodic development. Measures 13-16 conclude the piece with a final melodic phrase in the 1ST ALTO SX and sustained notes in the other parts. The score is written on ten staves, with the first four staves corresponding to the four saxophones and the remaining six staves providing additional parts or doubling.

Add another tenor sax to this combination, and we have the usual five saxophone section:

EX. 13

Ritmico e LEGATO

1º ALTO SX

2º ALTO SX

1º TENOR SX

2º TENOR SX

BAR. SX.

Another voicing for this combination would be:

EX. 14

(RITMICO e LEGATO)

1ST ALTO SX
2ND ALTO SX
1ST TENOR SX
2ND TENOR SX
BAR. SX.

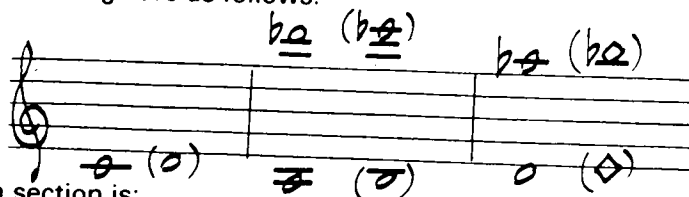
A saxophone section can sound quite differently by employing the first tenor sax as the lead:

EX. 15

Ritmico

1ST ALTO SX
2ND ALTO SX
1ST TENOR SX *LEAD*
2ND TENOR SX
BAR. SX

A B♭ soprano saxophone is occasionally used in a section, so a few words on the subject would not be amiss. The transposition and range are as follows:



A sample of its use in a section is:

EX. 16

ANDAMINO

The saxophone section in unison would look like this:

EX. 17

1 ALTO SX

2 ALTO SX

1 TENOR SX

2 TENOR SX

BARTONE SX

Unison octaves are written like so:

EX. 18

1 ALTO SX

2 ALTO SX

1 TENOR SX

2 TENOR SX

BARTONE SX

The B \flat bass saxophone is seldom used anymore. The instrument is quite clumsy, and is generally out of tune. Its main benefit is the handful of low notes it can play below the range of the baritone sax. The B \flat bass saxophone is also a transposing instrument, and the transposition and key signature are the same as the B \flat tenor, the bass sax being one full octave lower than the tenor. It is written in treble clef. The chart below shows the characteristics of the B \flat bass saxophone:

Handwritten musical notation on two staves illustrating the B \flat bass saxophone's transposition. The top staff is in treble clef with a key signature of one flat (B \flat). The bottom staff is in bass clef with a key signature of one flat (B \flat). Handwritten notes and labels show the relationship between 'sounds' and 'written' notes. Labels include '16 BASSO LOCO', 'SOUNDS', 'WRITTEN', and '16'.

The bass saxophone, much like the baritone sax, can be used to reinforce the bottom of the saxophone section, but it is a great deal less satisfying than the "bary" for the reasons stated previously. The interval indicated in the staff below should be avoided, since the fingering is next to impossible:

Handwritten musical notation in bass clef showing a half note G 2 and a half note B 2 with a slur and an upward arrow indicating an interval.

"sounds"

Handwritten musical notation in treble clef showing a half note G 4 and a half note B 4 with a slur and an upward arrow indicating an interval.

"written"

2) Clarinets as a Section

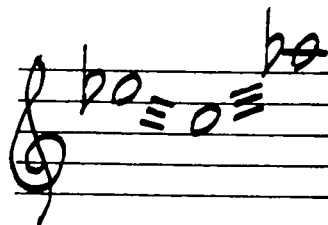
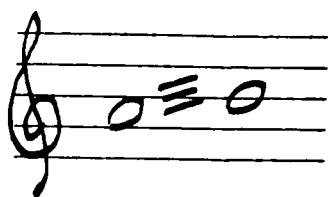
Clarinets as a section have become even more passe than a saxophone section, but once again, there is still some use made of them, so the arranger should know a few facts.

The B \flat clarinet is the most common form in use, and we will build a section of this type. It is a transposing instrument with "middle C" appearing here:



As with the B \flat tenor saxophone, two sharps are to be added (or two flats subtracted), or one sharp added (and one flat subtracted) depending on the concert key.

All trills and shakes are possible except:



Saxophone players who include clarinets as a double do not, as a rule, get the purest tone or the maximum facility from the clarinet, so please do not be too daring in your scoring in such a situation. **All** the low notes are feasible, but the top of the register is dangerous ground. Facility from G to C is slow and awkward because of the difficulty in fingering.

Three clarinets in triad form would look like this:

EX. 19

ANDANTE

1. CLAR.
2. CLAR.
3. CLAR.

mf
f

And, four clarinets would set up this way:

EX. 20

ANDANTE

A B \flat bass clarinet is a valuable addition to the clarinet section. It transposes similarly to the B \flat clarinet with an added octave between the "sounding" note and the "written" one, as is demonstrated by this range chart:

WRITTEN NOTE

MIDDLE C

BASS

LOCOS

There are more notes above the top note indicated, but even in the hands of an expert, the bass clarinet acquires the color of an alto flute when in the upper register, and loses the round "woody" characteristic of its true nature. An additional low half-tone ("D \flat " concert) is available in some bass clarinets by the presence of an extra key on the instrument, but it is wise to check this out with your particular player before writing him a low "E \flat ".

The same trills are impractical on the bass clarinet as the ones listed for the B \flat clarinet - all the rest being possible.

The clarinet section with added bass clarinet would look like this:

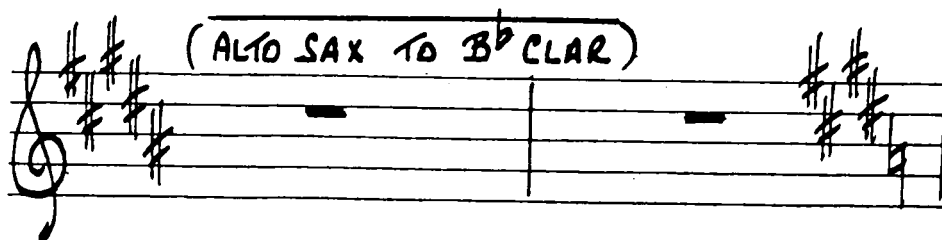
EX. 21

ANDANDO

1. CLAR.
2. CLAR.
3. CLAR.
4. CLAR.
BASS CLAR.

Most saxophone players double on clarinet, with the ideal positioning of the bass clarinet in the "baritone saxophone chair". However, when writing for a particular woodwind section, an accurate chart of the doubles should be made, indicating which man plays each instrument.

When the score calls for a change of instrument (for example, sax to clarinet), sufficient time must be given the player to execute the physical "switchover", plus, if called for, an appropriate change in key signature. For instance:



Two bars rest, if a slow 4/4 time, should be sufficient, more bars rest if the tempo is faster.

The Eb clarinet is quite scarce in orchestral scoring, the military or concert band being its more familiar setting. But on the rare chance that your woodwind section might have one, we'll include it. It is a transposing instrument, with "Middle C" and the range given below:



(add three sharps to, or subtract three flats from, the signature, as in the Eb alto saxophone.)

An example of the Eb clarinet used with several Bb clarinets would look like this:

EX. 22

ANDANTE

Handwritten musical score for five clarinets: Eb CLAR, Bb CLAR, Bb CLAR, Bb CLAR, and BASS CLAR. The score is in 4/4 time and consists of 16 measures. The Eb CLAR part starts with a half note G4, followed by a half note A4, and then a half note B4. The Bb CLAR parts start with a half note F4, followed by a half note G4, and then a half note A4. The BASS CLAR part starts with a half note D3, followed by a half note E3, and then a half note F3. The score includes various musical notations such as notes, rests, and dynamic markings like 'mf'.

Clarinets sound very nice in unison, in the high register where they are very forceful:

EX. 23

Handwritten musical score for four clarinets (1. CLAR. to 4. CLAR.) in G major (one sharp) and 2/4 time. The tempo is marked *ANDARE*. The first staff (1. CLAR.) features a melodic line with notes G4, A4, B4, C5, D5, E5, F5, and G5, with dynamics *mf* and *f* indicated. The second staff (2. CLAR.) is marked *COL TOP LINE* and contains a wavy line. The third staff (3. CLAR.) is also marked *COL TOP LINE* and contains a wavy line. The fourth staff (4. CLAR.) is marked *COL TOP LINE* and contains a wavy line. The bottom two staves are empty.

or in the low notes, where they assume a dark, "woody" sound all their own.

EX. 24

Handwritten musical score for four clarinets (1. CLAR. to 4. CLAR.) in G major (one sharp) and 2/4 time. The tempo is marked *ANDARE*. The first staff (1. CLAR.) features a melodic line with notes G4, A4, B4, C5, D5, E5, F5, and G5, with dynamics *mf* and *f* indicated. The second staff (2. CLAR.) is marked *COL TOP LINE* and contains a wavy line. The third staff (3. CLAR.) is also marked *COL TOP LINE* and contains a wavy line. The fourth staff (4. CLAR.) is marked *COL TOP LINE* and contains a wavy line. The bottom two staves are empty.

They are also familiarly attractive in two-part harmony like this:

EX. 25

ANDANDO

1. CLAR. 

2. CLAR. 

3. CLAR. 

4. CLAR. 

mf 

mf 













The addition of another bass clarinet is demonstrated in this setting for three B \flat clarinets and two B \flat bass clarinets:

EX. 26

ANDANTE-MENTE

1. CLAR.
2. CLAR.
3. CLAR.
1. BASS CL.
2. BASS CL.

ANDANTE-MENTE

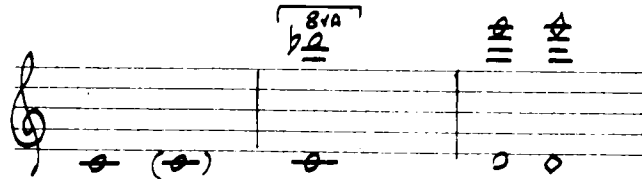
RALL

3) Flutes as a Section

The flute family, in contrast to the waning fortunes of saxophones and clarinets, is currently enjoying a wave of popularity. The flute sound is very "in" these days, both in section, and as a vehicle for jazz solos.

The C flute, the most common variety, is **non**-transposing, being written exactly where it sounds, and consequently, with no change of sharps or flats, playing in whatever concert key the score is written.

The range chart shows its considerable latitude:



The flute has a round, warm, sensual sound in its lower register, and an increasingly piercing sound as it climbs upward. However, the notes between its "fat" bottom and its "strident" top are pallid by comparison, and must be left exposed to be heard.

A backdrop of sustained brass or even the presence of strings, can completely cover a middle-register flute passage.

All trills are possible except:



Flutes are often found as doubles in a saxophone section, usually (and ideally) played by the first and second altos. However, as their popularity is on the rise, they are now frequently found in **every** chair of a five-man sax section.

An example of a passage for three flutes looks like this:

EX. 27

Andante

1. FLUTE
2. FLUTE
3. FLUTE

A musical score for three flutes, labeled 1. FLUTE, 2. FLUTE, and 3. FLUTE. The score is in 4/4 time and features a variety of musical notations including eighth notes, quarter notes, half notes, and full notes, often beamed together. There are also rests and dynamic markings like 'mf' and 'p'. The score is written for three staves, with the first staff for the first flute, the second for the second flute, and the third for the third flute. The tempo is marked 'Andante'.

An example of four flutes look like this:

EX. 28

ANDANTINO

1. FLUTE
2. FLUTE
3. FLUTE
4. FLUTE

The musical score is written for four flutes, labeled 1. FLUTE, 2. FLUTE, 3. FLUTE, and 4. FLUTE. The tempo is marked **ANDANTINO**. The score consists of 16 measures. The first four measures show the initial entry of the four flutes with various melodic lines and rests. The next eight measures show the flutes playing in a more complex, interwoven texture. The final four measures show the flutes playing a descending scale, with the word **RALL** (Ritardando) written above each staff. The score is written on a single page with a double bar line at the end of the 16th measure.

Flutes also blend nicely with clarinets, though care should be used to keep the upper clarinet part away from high notes, so that the flutes can be heard clearly.

EX. 29

ANDANDO

1. FLUTE
2. FLUTE
1. CLAR.
2. CLAR.
3. CLAR.

p
mf
p
Rall
p

Flutes and clarinets can be utilized when written in duet form in octaves.

EX. 30

ANDANTE

1. FLUTE
2. FLUTE
1. CLAR.
2. CLAR.

Flutes in unison should be kept either quite low, or reasonably high in register. This is due to the minimal projection possible in the middle tones.

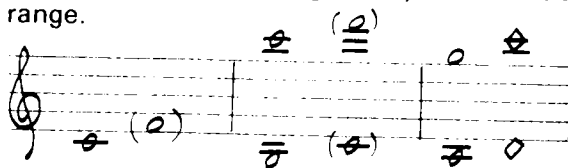
EX. 31

ANDANTE

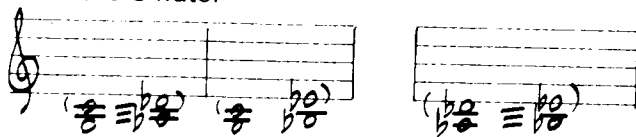
1. FLUTE
2. FLUTE
3. FLUTE
4. FLUTE

UNISON (LOW REGISTER) FAIRLY STRONG + EFFECTIVE
UNISON (MIDDLE REGISTER) — WEAK, EASILY HIDDEN
UNISON HIGH REGISTER — STRONG + PENETRATING

The alto flute is usually a "double within a double", the C flute players having found it expedient to invest in this very colorful instrument. It is of the transposing variety. The chart below shows the placement of "Middle C" together with the range.



One flat is added, or one sharp subtracted, depending on the circumstances. The impractical trills are correspondingly the same as on the C flute.



There are several more notes available above the highest one shown on the chart, but the alto flute then starts to assume the sound of the C flute, and its characteristics are thereby lost. It is best to plan out a passage for alto flutes so that they never go beyond their ideal register, always retaining their characteristic sound.

Alto flutes can be used in company with the C flute as this piece for two C flutes and two alto flutes demonstrates:

EX. 32 ANDARE

Or they can be used alone, like the next example for three alto flutes:

EX. 33

ANDANTINO

1. ALTO FLUTE
2. ALTO FLUTE
3. ALTO FLUTE

mf
mf
mf
mf
mf
mf
mf
mf
mf
mf
mf
mf

RALL
RALL
RALL

The bass flute is primarily a solo instrument, since for all its "roundness" of sound, it can be easily obscured by other instruments. The bass flute is a transposing instrument only in that it sounds an octave lower than it is written, but no change in key signature is necessary. It is scored in the treble clef. The C below "Middle C" together with the range of the bass flute is as shown:

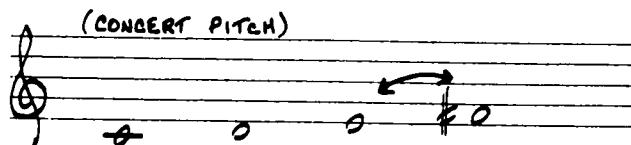
EX. 34A



It is better to keep the bass flute within the lower octave of its range, and it must be used carefully, even here, since all the notes are not of equal strength or intensity.

A "wolf", or break, is likely to develop when the bass flute reaches approximately this interval:

EX. 34B



Many a bass flute solo has been marred by the unexpected collection of overtones at this point, so try to avoid it in solo writing. An example of a solo passage for bass flute looks like this:

EX. 35



A setting for two C flutes, two alto flutes, and a bass flute would read like this:

EX. 36

ANIMOSO

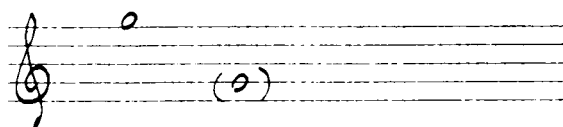


Non-practical trills are the same as the bass flute's little brother, the C flute, except that they occur, of course, an octave lower.

On the opposite end of the flute spectrum is the piccolo, usually played by the first flute, so that at least one can be available among the doubles stemming from five saxes. The piccolo's usefulness starts from a point within the highest octave of the C flute, and continues upward from the C flute's highest note (high D-flat) for about five additional tones. It is, as with a bass flute, a transposing instrument only in that it **sounds** an octave away from the written note. But, unlike the bass flute, which sounds an octave lower, the piccolo sounds an octave higher. The range is given below:



The lower octave is a poor substitute for the same notes on a C flute since the piccolo reaches its full effectiveness as it climbs into its true domain, commencing two "G"'s above "Middle C".



The piccolo can be used to reinforce the C flute by writing it an octave above the flute. The passage will contain the same **written** notes for each, but the piccolo will **sound** an octave higher, due to its automatic transposition.

A piccolo fulfills a specialized, and therefore, valuable function, in that it can play notes of considerable intensity and strength in a register shared by no other wind instrument. Only the violin can reach the register of the piccolo, though it cannot equal the piccolo's "carrying" power. Indeed, a piccolo in the upper register can be heard quite clearly above a full symphony orchestra!

Percussion instruments, such as bells and xylophones are often doubled with the piccolo to give it even greater effectiveness.

In the woodwind section, the piccolo is mainly effective in unison with the upper flute or in light, percussive passages such as this:

EX. 37

ANIMOSO

1+2 Piccolo

1-FLUTE

2-FLUTE

1-CLAR.

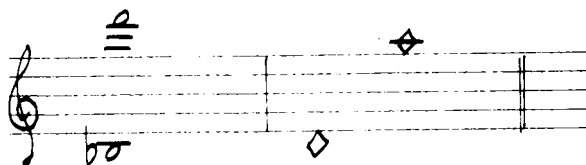
2-CLAR.

The piccolo, used correctly, adds a silvery edge to the very top of the woodwind section.

The impossible, or difficult shakes and trills are the same on piccolo as they are on flute, the advantage being that, since the difficulties occur in the very lowest area, you would not write those notes for the piccolo in any case.

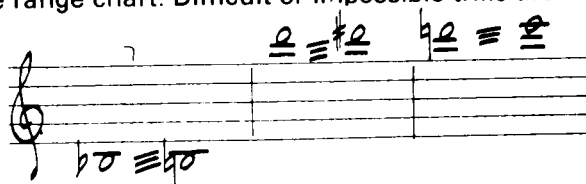
4) The Double Reed Family

The oboe is a valuable color of the woodwind group, and often one is to be found among the doubles played by the sax section. In my orchestras, it is played by the second tenor sax, though circumstances may place it anywhere among the reeds. It is a **non-transposing** instrument, and its range is:



The lower three tones of the oboe's range are difficult, ("Bb", "C", "D"), and it is unwise to start any solo passage lower than the "Eb" above "Middle C". Most players seem to have great difficulty in "starting" the note if it is too low.

The same rule applies with the oboe as with other instruments; for maximum effectiveness, keep well within the extremities of the range chart. Difficult or impossible trills are:

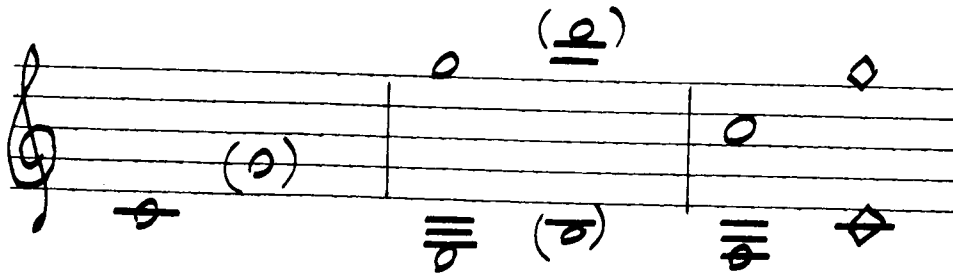


The oboe, since there is usually only one in a sax section, is used primarily as a solo instrument, but it can be used with effect as part of a woodwind section. An example is the following passage, written for two flutes, one oboe, and one clarinet:

EX. 38

ANIMANDO

The English horn is usually an additional "double" of the sax chair on which the oboe is written. It has a larger, rounder tone than the oboe, and a somber, dark sound. It is a transposing instrument in the more complete sense of the word; "Middle C" looks like this:



The English horn is written in the treble clef, and a sharp would be added to, or a flat subtracted from, the signature of the concert key in which the arrangement is written. Almost exclusively a solo instrument, the English horn can nevertheless be used in a section of woodwinds. Such an example is:

EX. 39

AMABILE
SLOWLY

ENGLISH HW
CLARINET
1 BASS CL.
2 BASS CL.

The above information on double-reeds was supplied by another old friend, "Champ" Webb.

The bassoon is seldom found as a double within a saxophone section, but very occasionally - perhaps in a studio orchestra - you might be fortunate enough to have one. Its sound is usually associated with "humor" in music, but it can be used in many other ways in larger combinations. (A few of these ways will be covered further along in the chapter on woodwinds.) The bassoon is a non-transposing instrument, and is written in the bass clef. The higher notes can either be designated "8-VA", or written in the tenor clef. Its range is:



The bassoon, if included in a reed section also containing an oboe, can help achieve a quasi-"baroque" sound, like this piece for one oboe, two clarinets, and one bassoon:

EX. 40

ANDANTE/MELO

OBOE

1. CLAR.

2. CLAR.

BASSOON

The bassoon could also substitute for a bass clarinet, and be used **with** clarinets. . . something like example 21. The only drawback is that very few bassoonists seem to phrase rhythmically enough to blend in with clarinets except in legato, non-rhythmic passages. This fact, coupled with the decided variance in tone between the bassoon and clarinet, make for a less than satisfactory blend when used that way.

5) The Use of a Classic Woodwind Set-Up, Including French Horns

As an arranger, it has always been a joy to me to occasionally have the opportunity of shaking off the confines of a sax section and its derivative doubles, and to contemplate the luxury of a full woodwind section with all the misty, velvety sounds that issue from such a group if properly used. In the Frank Sinatra album, "Only the Lonely", I had the advantage of such a group, within a still larger combination of other instruments. Since that time in 1958, I have, whenever appropriate, turned to this set-up to enrich and beautify an arrangement. The combination employs the "classic" series of pairings: two flutes, two oboes, two clarinets, and two bassoons. Music for such a grouping would look like this:

EX. 41

ANDANDO

1-2-FLUTE

1-2-OBOE

1-2-CLAR

1-2-BSSN

Another way of voicing the same instruments doubles the flutes with the oboe, adding a silvery, yet velvety dimension.

EX. 42

ANDANTE
(PASTORALE)

1-2-FLUTE
1-2-OBOE
1-2-CLAR.
1-2-BSSN

The score is written in common time (C) and features a pastoral theme. The first four staves show the woodwind parts, with the Flute and Oboe parts often playing in unison or doubling each other. The Clarinet and Bassoon parts provide harmonic support. The score includes various musical notations such as notes, rests, and dynamic markings. The bottom section of the score includes a 'RALL' (Ritardando) marking and a final cadence.

Breaking this woodwind section into two-part harmony would come out like this:

EX. 43

ANIMOSO

1-2-FLUTE
1-2-OBOE
1-2-CLARINET
1-2-BASSOON

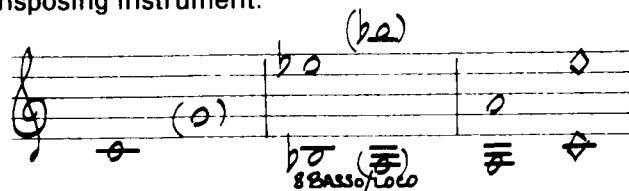
A large-sounding double and triple unison can be effectively done this way:

EX. 44

1-2-FLUTE
1-2-OBOE
1-2-CLAR.
1-2-BASSOON

The addition of French horns to the combination can be very effective; but first, some pertinent facts about French horns:

The French horn is a transposing instrument:



You may write your horn parts with no key signature, merely adding accidentals as they occur. However, if you wish to do so, there is no reason why you cannot write them in a key containing the proper number of sharps or flats. The previous paragraph on the English horn will give you the correct formula, since the transposition is identical.

The French horn has a very unique sound by itself, yet it can be blended with other instruments very successfully. An example of the inclusion of French horns in my favorite woodwind set-up is:

EX. 45

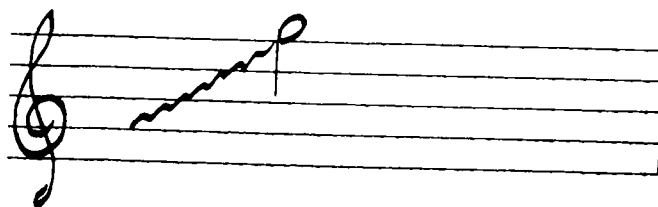
ANDANTE CANTABILE

1-2 FLUTE
1-2 OBOE
1-2 CLAR
1-2 BSSN
3 HORNS

They are also beautiful in unison passages and solos, though care should be taken to keep them away from repetitive high notes. Apparently, the positioning of the notes is very difficult, and a horn player, even a fine one, can "crack" a note easily. I have heard an excellent horn section go over a passage time after time in an effort to achieve the "perfect take"; each time one player or another would miss a note. So, to save yourself time and aggravation (also to allow the horn players to survive "to fight another day"), do not make the horn parts too daringly high. Continuous playing of sustained tones, whatever the range, tends to exhaust a horn player. So always give your players a few bars rest wherever possible.

The low register of the French horn is not without its drawbacks either. The very lowest notes are "tubby" and extremely difficult to play in tune. The low notes, from the point where ledger lines become a problem, are written in bass clef, the rest in treble clef.

The French horn is capable of rapid passages, not unlike those a trumpet would undertake. Glisses or "rips" up to a note are also effective. They are indicated like this:



Horns can achieve several variations of sound by the use of mutes, and by the insertion of the player's hand in the bell. The soft mute gives a distant, misty, round-edged sound. The hard mute produces a metallic, strident sound, with a sharp cutting impact. The insertion of the hand - marked + over the note - is a deeper, less constricted sound than the hard mute, and conveys an ominous, "snarly" impression. This use of the hand is called "stopping", and a passage played this way calls for "stopped" horns. The playing of a horn passage "open", followed by its "stopped" repetition, is a most effective device.

EX. 46

ANDANTE MAESTOSO

3 HORNS. UNIS.

Two horns and two bassoons make a nice coupling and, though not a substitute for four horns, has its own usefulness.

EX. 47

ANDARE

2 HORNS.

2 BASSOONS

Two horns and one bassoon can be used to advantage where a triad formation, primarily horn-like in quality, is desired.

EX. 48

ANDANTE MENTE

2 HORNS.

1 BASSOON

The two previous examples partially fulfill a promise made earlier in this chapter to show other uses for the bassoon. Another usage is to couple a bassoon and an alto flute in unison, a very subtle and beautiful sound.

EX. 49

ALTO FLUTE *ANDANDO*

BASSOON

Two bassoons and two clarinets are very nice as long as the passage is non-rhythmic, and adds just one more implement to a "tool box" which the arranger must carry with him to each task, so that he can deal with every combination of instruments.

EX. 50

2-CLARS *ANDANTE NON TROPPO*

2-BSSNS

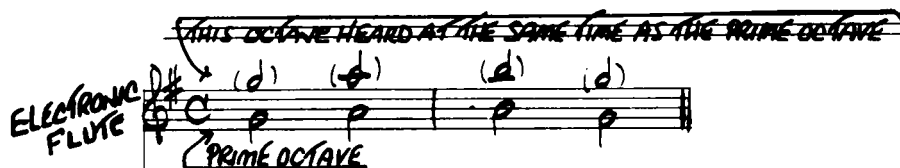
LEAD

Two instruments which belong to the woodwind family and have not been previously mentioned, are the contrabass clarinet and the contrabassoon. They are each built to sound one full octave below their smaller counterparts, the bass clarinet and the bassoon. Their peculiarities are explained in detail in any number of books on orchestration, but their scarcity as "doubles" of a sax section make superfluous anything more than a passing reference. Their value for effect is undeniable however. It will be well worth the time any young arranger would devote to tracking down these two shy "creatures", learning their habits, and noting in symphonic scores, how they may be used to the best advantage.

6) Electronics and Woodwinds

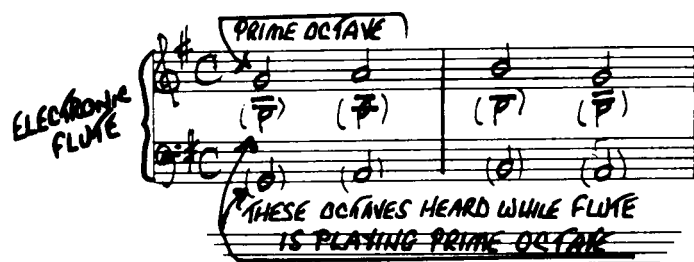
Fairly recent developments have seen the electrification of all members of the woodwind family. Like most mechanical innovations, everyone immediately jumped on the "electronic bandwagon". Before long, a potentially important breakthrough became a very commonplace tool. The combinations of electronics and woodwinds have given the arranger several new effects to deal with. The flute, for instance, can adjust his electrical equipment to permit him to play two octaves simultaneously; the octave he is actually playing—called the "prime" octave, plus the octave above.

EX. 51



The same flute player can make another adjustment and play the prime (written) line, and **two octaves below** this, all at the same time.

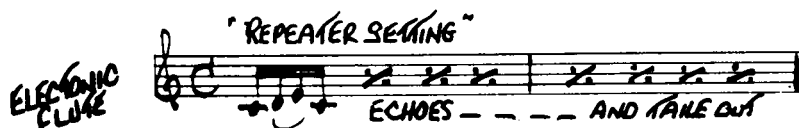
EX. 52



Electrification of the flute strengthens its tone considerably, and adds an echo-y quality to its sound that is quite attractive. Thus, all caution preached in the previous paragraph on flutes regarding their weaknesses and tendency to be easily hidden in certain registers can be disregarded if the flute is electrified.

The electronic flute can also be adjusted to play a figure that is repeated automatically, and that echo can even be set up to recur at a predetermined tempo.

EX. 53



The "stacking" of these echoes can also be constructed so that a chord can be formed by the overlapping figures, with each of several flutes providing a voice in the "stack".

EX. 54



The particular effect desired must be carefully planned out to avoid clashing with other elements of the arrangement, and once decided upon, should be marked clearly on the part (octaves indicated and "repeats" written over the figure to be echoed).

The same innovations in sound described above are possible with any member, or members, of the woodwind family, provided they are electronically equipped. Similar effects are obtainable with saxophones, oboes, clarinets, bass clarinets, and bassoons.

If used sparingly and tastefully, electronic effects can be considered a major feature of present-day arranging.

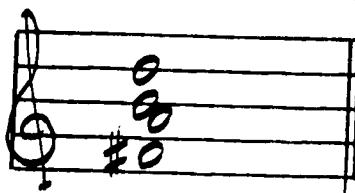
CHAPTER IV

The Brass Family

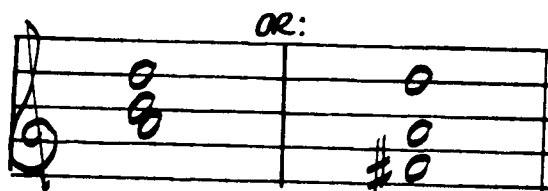
1) Trumpets as a Section

The B \flat trumpet is the most common in use today. Orchestras employ two, three, or four in the section and they are the "punch," edge, and definition of the modern dance orchestra. The first trumpet player usually dictates the way the brass section phrases, where the section pauses for breath, and the exact point at which a note is relinquished. This service does not remove from the arranger his obligation to mark the score carefully for such details, but where the arranger's specifications seem inappropriate or impractical, the first trumpet player is called upon to make his own not insignificant contribution. A real "lead man," whether he plays trumpet, trombone, saxophone, or violin, must have some of the personality characteristics of a first sergeant or platoon leader.

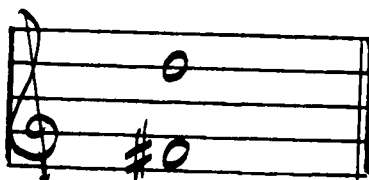
In times just past, four trumpets would be utilized in a chord like this:



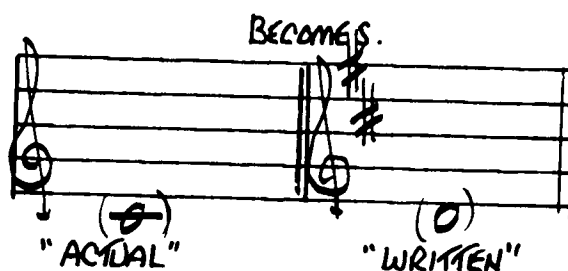
Three trumpets would be voiced thusly:



But in contemporary writing two (or four, two to a line,) are often used like this:

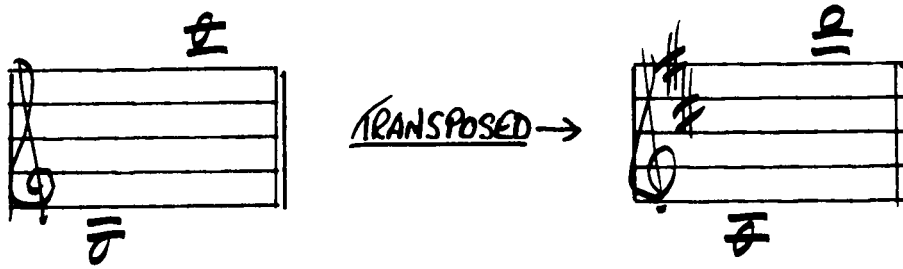


B \flat trumpets are transposing instruments. The **written** note is one full tone above the actual or concert note. In order for the trumpet to play Middle "C," one must write the "D" above Middle "C".



The transposition is identical to the B \flat clarinet.

The range of the B \flat trumpet is largely decided by the player's ability, but a practical range for a good first trumpet player would be:



Remember when writing for this instrument that a trumpet player achieves high notes by increasing the air pressure into the mouthpiece and by utilizing the network of muscles at the corners of his mouth. Low notes are played by decreasing the air pressure and by relaxing the lip muscles. The jaw position has a great deal to do with high and low, the jaws being close together for high notes, and the lower jaw dropped for low tones. This principle applies to all the brass instruments and should be kept in mind when writing for them.

The arranger should avoid awkward or long jumps between notes, so that the player can have time to set both his ear and his lip for the note coming up. What the player cannot hear he cannot play, not in tune at least. If possible, both extremely high and extremely low notes should be led up to logically:

IMPRACICAL

PRACTICAL

BETTER STILL

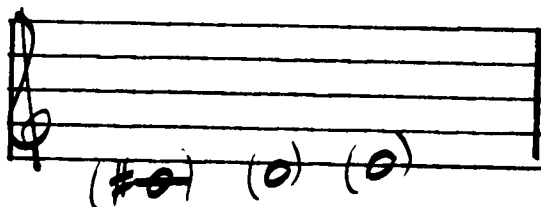
IMPRACICAL

PRACTICAL

BETTER STILL

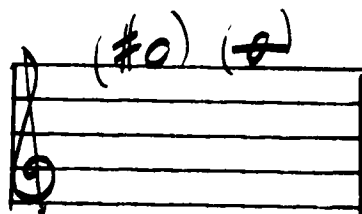
Most musical instruments rely on the ear of the player for intonation, and the trumpet is no exception. In the lower register the following notes are inclined to be difficult to play in tune:

TRANSPOSED



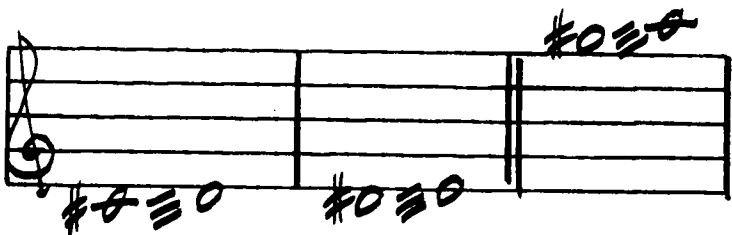
In the upper register these two notes are troublesome for the same reason:

TRANSPOSED



Trills are effective on trumpet but difficult fingering makes these intervals to avoid:

TRANSPOSED

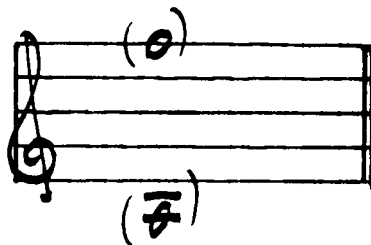


When writing for trumpets it is best to avoid long, sustained passages. Session players, while they are the "cream of the crop" as far as tone, execution and all-round musicianship are concerned, are usually several years past the days when they played several hours a night with a dance band, and do not have the staying powers which youth and constant playing develop. You can soon wear down the best trumpet section available by keeping them blowing in the middle and upper registers with no respite. This leads to a frustrated arranger and a bunch of resentful trumpet players. The brass section should be used for punctuation and support, and should not be given the sustained passages you would assign to string players, who can saw away for hours without rippling a muscle or generating one drop of perspiration.

In recent years the flugelhorn has achieved considerable popularity in the recording orchestras. It, too, is a B \flat transposing instrument, and is written exactly as you would write for the trumpet. The characteristics of the flugelhorn are somewhat different, however. It possesses a warmer, rounder tone, and is not effective in the upper register.

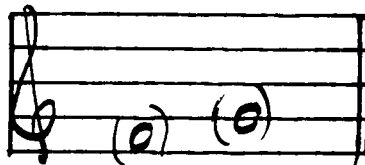
Its comfortable range is:

TRANSPOSED



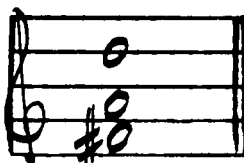
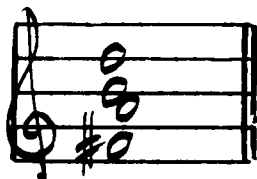
As in the case of the trumpet, there are a couple of notes which are difficult to play in tune. They are:

TRANSPOSED

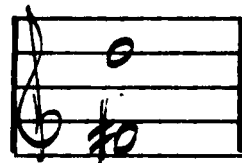


Flugelhorns are used usually as solo instruments or in groups of two or three. As they have often replaced trumpets in the recording orchestra, so has the harmony played by brass instruments been somewhat altered. The use of the sixth and ninth in brass chords has given way to simple triad or duet formations.

This "D" chord of yesteryear, as played by four trumpets:



or:



played by three and two Flugelhorns, respectively.

The following are examples of our old buddy, **Brother John**, written for four, three, and two trumpets. These parts can also be played by a similar number of Flugelhorns.

EX. 55

(4 TRPTS)

TRANSPOSED FROM "F" CANNOT (1 FLAT)

This musical score is for four trumpets. It is written in 2/4 time with a key signature of one flat (B-flat). The notation is arranged in four staves. The first staff has a handwritten note 'TRANSPOSED FROM "F" CANNOT (1 FLAT)' and a circled 'F' with a flat. The music consists of chords and melodic lines for each part, with some notes beamed together. The piece ends with a double bar line.

EX. 56

(3 TRPTS)

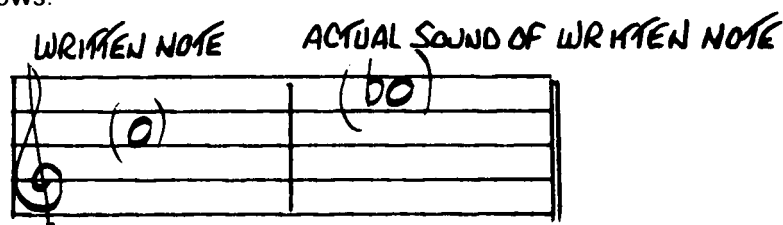
This musical score is for three trumpets. It is written in 2/4 time with a key signature of one flat (B-flat). The notation is arranged in three staves. The music consists of chords and melodic lines for each part, with some notes beamed together. The piece ends with a double bar line.

EX. 57

(2 TRPTS)

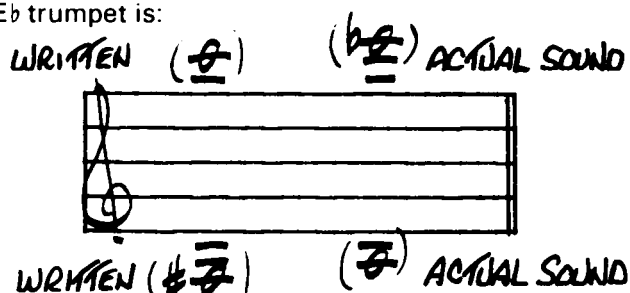
This musical score is for two trumpets. It is written in 2/4 time with a key signature of one flat (B-flat). The notation is arranged in two staves. The music consists of chords and melodic lines for each part, with some notes beamed together. The piece ends with a double bar line.

There are other varieties of trumpets in use, in addition to the B \flat trumpet and the Flugelhorn. The E \flat trumpet is used occasionally, its usage limited to Baroque music and to "filigree" passages usually pitched well above the normal range of the brass section. It is a transposing instrument, the transposition accomplished as follows:



In the process of transposition, three sharps are added to the key signature ("C" concert becomes "A" in transposition; "E \flat " concert becomes "C" in transposition, "F" concert becomes the key of "D" (two sharps), etc.).

The usable range of the E \flat trumpet is:



E \flat trumpets are never, to my knowledge, used as sections, only as solo instruments. Example 56 shows how one could be used to play a passage above the B \flat trumpets.

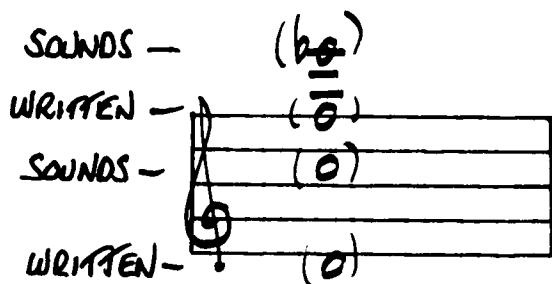
EX. 58

1 FLAT
(F CONCERT)
2 SHARPS ADDED FOR
SOUND (F#)
TRANSPOSED
KEY D 2 SHARPS

1 FLAT
(F CONCERT)
2 SHARPS ADDED FOR
SOUND (F#)
TRANSPOSED KEY
D 2 SHARPS

The D trumpet is sometimes utilized, having the same range and tone, and serving the same functions as the E \flat trumpet. Its transposition is the same as that of the B \flat trumpet, playing a written note one full tone higher than the sounding note, and adding two sharps to the signature.

The piccolo trumpet is mentioned here as another addition to the trumpet family now in use, its function being similar to that of the E \flat and D trumpet, and its transposition and range charted below:

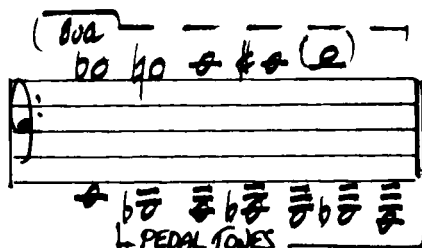


The relationship of transposed key to concert key requires the same addition of two sharps to the signature that we have encountered when writing for the B \flat trumpet.

The cornet is occasionally used as a substitute for the B \flat trumpet, especially in Dixieland music. The range is identical to the B \flat trumpet, though I have always thought of the cornet as being a solo instrument playing more in the range of the flugelhorn than aspiring to the high piercing notes of the trumpet. The tone of a cornet is mellow and rounded, somewhere between the thinner, more incisive notes of the trumpet and the even rounder sound of the flugelhorn.

2) Trombones as a Section

The B \flat tenor slide trombone is the instrument used in the trombone section of dance orchestras, studio orchestras, and stage bands. It is a **non-transposing** instrument, being written in **concert** in the bass clef (bass clef). Its range is as follows:



The upper notes, "B \flat ," "B," "C" and "C \sharp ," are all practical and easily available to **experienced professionals**, but younger and weaker lips usually have "A" or "B \flat " as a ceiling, and the high "D" in particular seems to be the starting note of a kind of "stratosphere" which is closed to all but the very finest players.

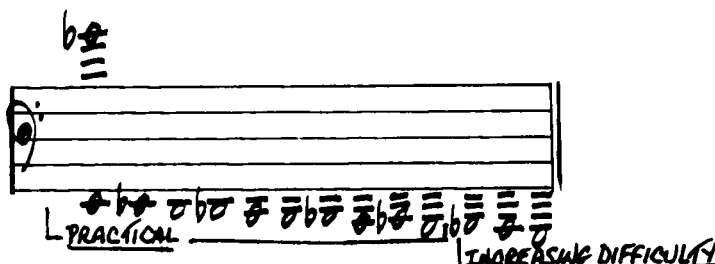
Since we are discussing trombones as a section and these high notes represent the range of a soloist, it seems to me that the top note of the first trombone in a section should be limited to high "C \sharp ." In any case, the individual first trombonist you are writing for is to be considered. Do not be shy or afraid to ask him personally (perhaps privately) how high he can play comfortably and consistently. Ideally such a relationship as this should exist between the arranger and every member of an orchestra, so that the man who writes the notes could be aware of the limitations of the players. If the arranger is writing for a specific orchestra where change of personnel is infrequent, he can, in time, develop a familiarity with its capabilities as a whole, which will give him a freedom and comfort not unlike that which is derived from playing music on a cherished, well-loved instrument. It might even be desirable, where these conditions of permanence exist, for the arranger to make himself a chart of the orchestra, showing the names of the players, their instruments, ranges and other details of value.

The lower register of a trombone stops at the "E" below the bass clef staff. There are pedal tones available starting at "B \flat " below the low "E," and continued for six semi-tones below that to the low "E" an octave below the "E" mentioned above. These pedal notes, however, do not have the consistency and punch of the notes which terminate at the "E" below the staff, and are used mainly for effect and contrast, not as the roof of a firmly anchored brass chord. As they descend from the "B \flat " below low "E," they are increasingly difficult to strike, requiring, as they do, the severe dropping of the player's lower jaw, and becoming increasingly "grainy" and substanceless.

In recent years, partly, perhaps, because of my friendship with George Roberts and my constant use of his talents in my orchestra, the bass trombone, or B \flat tenor trombone with an "F" attachment, has been included in the trombone section to play the lower parts. The bass trombone provides the firm low register not attainable through the use of pedal tones, and is a distinct advantage to the brass section as a whole in achieving telling harmonic substance. A bass trombone part, intelligently written and well played, can serve as an anchor for the entire orchestra, and is often second only in importance to the contribution of the first trumpet player.

The bass trombone, like the tenor trombone, is a non-transposing instrument written in the bass clef (bass clef).

Its range is as follows:



The high "Bb" is arbitrary. Many bass trombonists can go above this note, but it seems to me that this high note is all that should be required of a player who contributes so much in the lower register. Flexibility has its limits! (This last is a direct quotation from my son, Christopher, who has played bass trombone for me since January, 1971.)

The following examples show the use of two tenor trombones, three tenor trombones, three tenor trombones and a bass trombone, four tenor trombones, and four tenor trombones and a bass trombone.

EX. 59

2 TENOR
TROMBONES

EX. 60

3 TENOR
TROMBONES

EX. 61

3 TENOR TROMBONES
1 BASS TROMBONE

EX. 62

4 TENOR TROMBONES

EX. 63

4 TENOR TROMBONES
1 BASS TROMBONE

3) Trumpets and Trombones as a Brass Section

A brass section is made up of a combination of trumpets and trombones. The dance bands of earlier days carried various sizes of brass sections, from two trumpets and one trombone to four of each. In the following examples I have demonstrated how to write for most of the combinations you are likely to come across, including a few bars showing the usage of two trumpets and two trombones, a very popular mixture in today's music.

These examples show the use of two trumpets and two trombones, three trumpets and two trombones, three trumpets and three trombones, four trumpets and three trombones, and four trumpets, three trombones, and one bass trombone.

EX. 64

EX. 64

2 TRPS. (TRANSPOSED)

2 TBAS.

♩ = 120

The musical score for Example 64 is written for two transposed trumpets and two trombones. It begins with a tempo marking of 120 beats per minute. The score is organized into five systems of staves. The first system shows the two transposed trumpets (top two staves) and two trombones (bottom two staves). The second system continues the melody and harmony. The third system introduces a new melodic line for the trumpets. The fourth system shows a more complex harmonic texture with many beamed notes. The fifth system concludes the piece with a final chord and a double bar line.

EX. 65

3 TPRS
(TRANSPOSED)

2 TBWS.

3 TPRS (TRANSPOSED)

2 TBWS.

EX. 66

$\text{♩} = 120$

3 TPRS

3 TBWS.

3 TPRS

3 TBWS.

EX. 67

4 TRS
3 TRS

EX. 68

$\text{♩} = 80$

4 TRS
3 TRS
1 BASS/BL

You will notice that a great deal of motion and duet line writing appear in Example 64 (two trumpets and two trombones) and in 65 (three trumpets and two trombones.) This form seems to be more useful when there are not enough instruments to sustain the closely voiced chords so effective in brass writing. The movement of the lines themselves sets up overtones that suggest and delineate the harmonies, some of which are nonexistent, or barely so. Good voice leading is most important when writing for instruments, and even more so where smaller, more transparent groups of instruments are being written for.

As we get into the larger combinations of brass, block formations become increasingly effective, as in Examples 66, 67, and 68. Here the added voices fill out the chords and line writing is not as necessary. Example 64, however, could easily be played with eight brass (four trumpets and four trombones), merely by adding an extra trumpet or trombone to each of the lines written for four brass. Modern brass functions lean in this direction, and I must say that the fluidity and added interest, both to the player and the listener, is quite apparent.

The 2nd four bars of Example 65 show the third trumpet doubled with the first, an added strengthening of the melody which is wholly desirable.

Example 67 is simply a rewriting of 66 with an added trumpet part inserted.

Examples 67 and 68 both contain chords where the lead is momentarily doubled. This doubling is also perfectly permissible, especially where the melody in the trumpets descends to a "semi-mushy" register that is short on carrying power. A heavily bunched chord in the low register tends to obscure the melody note unless something such as doubling is done to strengthen it.

Example 68 has large areas where the first trombone doubles the first trumpet an octave lower. This practice is advisable in larger brass sections since, try as we might, we cannot ignore the fact that a brass section in reality consists of two entities, one a group of trumpets, the other a cluster of trombones. The tone of each is quite different, the trumpet being thin and piercing, the trombone much rounder and more mellow. Any effort to give the first trombone a line of odd notes will result in spotty, unbalanced overall sound, with notes of secondary importance sticking out like a series of "sore thumbs." Most first trombone players, in my experience, tend to overblow, as if in fear of losing their identity as section leaders when surrounded by other brass instruments. Since this seems to be the case, it is safer to give them something solid to bite into. And what can be more logical than the melody? Here, at least, the first trombone player can do a minimum of damage to the overall cohesiveness and blend of the brass section as a whole.

As you may have noticed, I have tried to be somewhat free in choosing harmonies for the various examples. Harmonic imagination adds interest to the writing, the playing and the listening, the one exception being situations where it is mandatory that the printed harmonies be used to the exclusion of any substitutes. I have come across this philosophy most often in the scoring of movie musicals, where the composers of the songs state clearly their opposition to any "fiddling" with the chords.

When given your freedom harmonically, use it. But use it with logic and good taste. The insertion of weird chords for effect only is self-defeating. In choosing the chordal structure for a tune, the melody must be considered, followed with hardly less importance by the bass line. If, when played together, sans harmony notes, the melody and bass make sense, you are ready to fill in the rest. Often the playing of these two supremely important parts will hint at the harmonies you will use later on. The use of each chord within an arrangement depends largely on the chord you are coming from and the chord you are going to. By trying several combinations of chords in each situation you will develop good "harmonic ears" and also find another way of making your arrangement of a particular song more original and distinctive than other presentations of the same melody.

4) The Use of French Horns with Brass Instruments

In Chapter III we have covered the use of French horns in conjunction with other woodwinds, since horns, clinically at least, fall into the woodwind category. In this chapter we will speak of them as an adjunct to the brass section, where they are very effective. Their range and capability remain the same, no matter what their usage, so we can go immediately to the subject of **how** they are used with trumpets and trombones.

Example 69 shows a setting for three French horns in conjunction with three trumpets, two trombones, and a bass trombone, a typical "film studio" brass section. In these sixteen bars I have written the horns an octave lower than the trumpets, and used the trombones in unison, playing a moving bass part.

EX. 69

Handwritten musical score for a brass section, labeled EX. 69. The score is written on ten staves. The top three staves are for 3 TRPS. (Trumpets), 3 HORNS, and 2 TBNS. 1 BASS TBW. (Trombones). The bottom seven staves are for the remaining instruments. The music is in 4/4 time, with a key signature of one flat (B-flat). The score shows a variety of musical notations, including chords, single notes, and moving lines, with some parts marked with 'x' or 'y'.

Example 70, written for essentially the same instruments as 69 (a tenor trombone substituted for the bass trombone), shows the horns performing a different function entirely. In this example, the trombones are reinforcing the trumpets, and the horns (in unison) have the moving line. You will note, however, that the trumpets and trombones play parts that would make sense even if the horn part were subtracted. This is because the sound of a horn is quite different from that of a trumpet or trombone, even though in this instance they are playing together.

EX. 70

$\text{♩} = 100$

3 TRS.

3 HNS. (UNIS)

3 TBS

Example 71 shows a few chords combining horns and trombones, trumpets, and horns. In each case a balance has to be worked at between instruments of unmatched timbre, so that the required color predominates.

EX. 71

The image shows handwritten musical notation for Example 71, consisting of four measures labeled A, B, C, and D. Each measure is divided into two parts: 'SOUNDS' and 'WRITTEN'.
 Measure A: The 'SOUNDS' part shows a Bb chord with notes for 2 horns, 2 horns, 2 horns, 2 horns, 2 horns, and 2 horns. The 'WRITTEN' part shows the same chord with notes for horns and trombones.
 Measure B: The 'SOUNDS' part shows a Bb chord with notes for horns and trombones. The 'WRITTEN' part shows the same chord with notes for horns and trombones.
 Measure C: The 'SOUNDS' part shows a Bb chord with notes for horns and trombones. The 'WRITTEN' part shows the same chord with notes for horns and trombones.
 Measure D: The 'SOUNDS' part shows a Bb chord with notes for horns and trombones. The 'WRITTEN' part shows the same chord with notes for horns and trombones.

In Example 71A a series of Bb chords, written for two horns and two trombones, is voiced so that the trombone sound is the characteristic one. The horn parts are written in bass clef to show more clearly their position in the chord. In actual practice, they must be transposed as I have done in all the other examples demonstrating brass. Because the trombone has a stronger, thicker sound than the horn, notes must be given to the trombone that make sense by themselves. In other words, you must give the lead notes plus one other strong note to the trombones if you wish the chord to maintain a reasonable balance. Another way to help the blend is to make the horn parts one dynamic degree stronger than the dynamics accompanying the trombones. If the trombones are playing **mezzo forte**, make the horn parts **forte**, and so on.

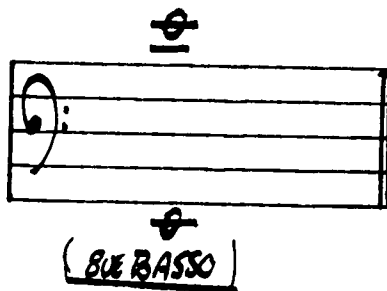
Example 71B shows the same Bb series of chords with the horn the predominant color. Notice that the selection of notes for each is slightly different. In the first inversion the horns play "Bb" and "F," whereas in the same situation in 69A the trombone notes were "Bb" and "D." This change is because **register** is important. The low "D" in a French horn is rather tubby, whereas the same note in a trombone is firm and easily controlled. In the next inversion a similar slight change is evident, for the same reason. The trombones sound better encompassing both extremes of the chord. The horns sound better in an interlocking position. In passages where the trombones and horns are playing together, it is wise to make the trombone parts "quasi-horn," so that they will minimize their slide vibratos to conform with the straighter tone of the horn. It is also wise to indicate to both trombone and horn players who has the lead in a given passage. This will guide the players either to play more strongly or to subordinate their parts, as the case may be.

Example 71C is a spread chord using horns and trombones. This chord is not reversible, because of the ranges of the two different groups of instruments. The horns, if given the top parts, would be very weak and muddy, and the trombones would far overbalance them.

Example 71D show the voicing of two trumpets and two horns, with the trumpets predominating. The same philosophy applies here as when mixing horns and trombones. The horns, by comparison, are the "weak sisters." The notes selected for the trumpets are the strong ones, and the dynamics must be adjusted accordingly. Any dependable blend between groups of instruments of different strengths, to be successful, not only has to be written and marked carefully by the arranger, but must be accompanied by an awareness on the part of the players, a sensitivity as to phrasing and intonation, and a real desire to help the mixture "come off." They must listen keenly to what is going on around them and be able to fit the sound of their instruments into the general blend. In a larger sense this statement applies to the achievement of a cohesive orchestral sound wherever and whenever musicians congregate with the intention of playing together.

5) The Tuba Combined with the Brass Section

The tuba most commonly used among professional musicians is the Double B \flat tuba. Its range is:



The tuba is a non-transposing instrument written in the bass clef (basso).

Its function in a brass section is to give a firm footing to chords. It is also used in unison with trombones an octave lower, and/or occasionally functions as a solo instrument should there be an exceptional player available:

Example 72 shows its great value as the root or seat of the chordal structure of a brass section. The moving bass line is most effective and alters the harmonies of *Brother John* in an interesting fashion.

EX. 72

$d = 80$

3 TRS
3 TRBS
TUBA.

The musical score for Example 72 is written for three staves: 3 TRS (Three Trombones), 3 TRBS (Three Trombones Bass), and TUBA. The tempo is marked as $d = 80$. The score consists of four measures. The TUBA part is written in the bass clef and features a moving bass line that provides the root of the chordal structure. The 3 TRS and 3 TRBS parts are written in the treble clef and provide harmonic support. The score includes various musical notations such as notes, rests, and accidentals, with a tempo marking of $d = 80$.

6) Electronics and Trumpets

Not too long ago the instrument manufacturers started making electronic attachments for trumpets, and thereby handed the arranger several new tools to work with.

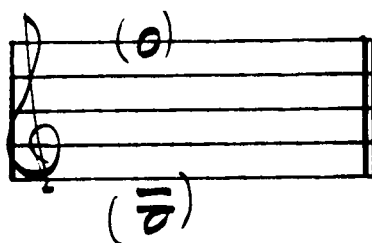
There is a device now available to enhance the sustained tone of a trumpet, adding an echo-y, pervasive sound to either an open or muted trumpet. A few hours with a trumpet player owning such a device will give the arranger a personal knowledge of its uses that will be more valuable than a whole chapter of descriptive phrases!

There is also a tape delay mechanism available, similar to the ones used on flutes, which permits the trumpet to play a phrase and have it repeated several times.

There is a "tone divider" that permits the trumpet to play one line and have it duplicated simultaneously two separate octaves below the played note, and one above, as in Example 73.

EX. 73

If the trumpet is playing with a Harmon mute, the tone divider works best if the fundamental note (the note actually played) is no higher than the concert "F" on the top line of the treble staff. The lower extremity, as you can see by the chart, is no problem.



If the trumpet is open, the upper register is limitless.

An oscillator unit available to trumpet players provides weird overtones of indeterminate distance from the note played (usually somewhere from a 4th to a 5th away). There is no range limit, either high or low, to the effectiveness of this piece of equipment.

And finally there is a "wah-wah" pedal which is effective with all these pieces of equipment mentioned above. Its name describes the effect derived.

An afternoon with a friendly trumpet player who is "electrified" will give you a speaking acquaintance with the above-mentioned devices, and you will be able to incorporate them into your future arrangements.

7) Mutes and Brass

The use of mutes offers variety and color change in a brass section, two elements that an arranger should always be seeking out.

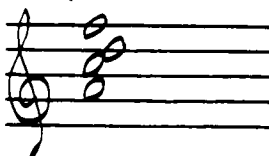
Cup muted brass offer a cool, somewhat distant effect. Straight mutes are characteristically sharp and incisive, and buckets provide a full, unpinched sound to the brass section, as if an echo-y veil were flung over open brass.

The only precautions that need observing are a) Register (muted brass does not sound well at either extreme of range, the top being pinched out of tune, the bottom tubby and muddy-sounding.); and b) Time (leave enough time for the brass to mute or unmute, as the case may be: three or four bars at a fast tempo, one or two bars at a medium or slow tempo.)

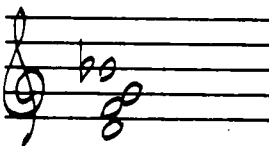
Muted brass sounds best when the trumpets are

(CONCERT PITCH)

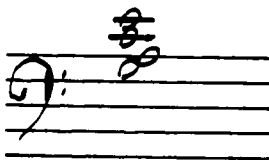
no higher than:



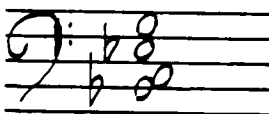
or lower than:



and the trombones are no higher than:



or lower than:



A half step higher or lower would not be catastrophic. As you write for muted brass and keep your ears open, you will arrive at your idea of what sounds best and what doesn't.

The Harmon mute is a familiar mute for trumpets, less so for trombones. It is usually written with the notation "shank out," which means the little spindle in the center of the mute is pushed as far out as it will go. Harmon mutes have a distinctive, ear-arresting tone, and are used extensively for solo purposes as well as in full sections. The muted trumpet fill played so effectively by Harry Edison in many of the Sinatra recordings I arranged are an example of the use of the Harmon mute.

There are both straight and cup mutes available for tuba, but the characteristics of the instrument make for a very uneven quality, the various registers often sounding unrelated when muted. The tuba blends best when used **un-muted** with an **open** brass section.

The French horn has a number of muted effects to offer, as delineated on Page 00, in the chapter on woodwinds. The soft mute conforms more closely to the cup muted brass, resembling the straight mute used by trumpets and trombones. Neither of these mutes offers a truly good blend with a muted brass section. But as usual, careful listening and balancing within the section can improve matters greatly.

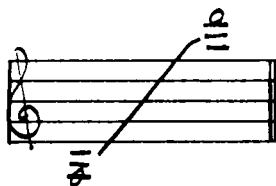
CHAPTER V

The Percussion Family

1) Mallet Instruments

(A) The vibraphone is a non-transposing instrument written in the treble clef (G).

Its range is:



Since up to eight mallets (four in each hand) can be used at once, clusters of notes are possible as long as they are not played too rapidly, since it takes time for the player to get set for each percussive formation he is to play. More commonly, groups of four notes are written (two to each hand).



Part of the contribution of the vibraphone is a resonator, one for each metal bar, or note. At the top of each resonator is a motor-driven propeller which helps sustain the tone and alter the vibrato. When writing for the vibraphone, be sure to indicate which passages you want sustained and which should be played in a "drier" fashion by using the damper pedal. If you merely write "motor on" for the former, the player will observe the staccato marks or short notes when he comes to the latter. The notation "motor off," however, can be used as added insurance that you will get the crisp sound you desire.

Vibraphones are of considerable value in producing "washes" or "blurs" for ethereal effects, and no other instrument in the orchestral family can do as well in this department. To achieve this sometimes valuable "swimming" sound, it is only necessary to notate a group of notes, either a half tone apart, or a whole tone apart in relationship, and add the word "blur." It could look like this:



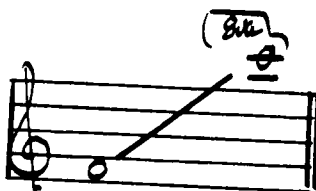
or this:




A large part of the use of the vibrator is in playing single notes as overtones. Later in this chapter I will show you some ways of combining the vibraphone with other instruments to produce unusual and useful effects.

(B) The xylophone, like the vibraphone, is a non-transposing instrument, written on one staff in the treble clef ().

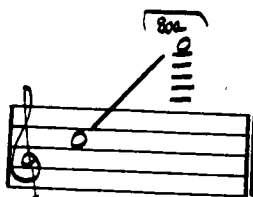
Its range is:



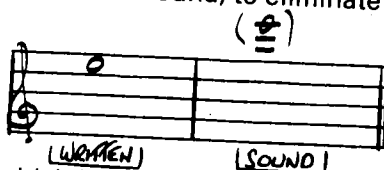
Its construction is not unlike that of the vibraphone, consisting of bars laid side by side in chromatic relationship, and played by the use of mallets. In the case of the xylophone however, the bars are of wood, not metal, and there is no resonator to sustain the tones. A skillful player can perform practically any glissando or arpeggio, plus a series of rapid eighth notes or sixteenths when needed. The tone is just what you would expect of an instrument constructed of hard wooden bars struck by equally hard wooden mallets: crisp, bright, and very penetrating.

(C) The glockenspiel is a series of tuned steel bars played with hard rubber mallets. It is non-transposing, and is written in the treble clef ().

Its range is:



The glockenspiel or orchestra bells are unique in their contribution to the overall sound of the orchestra. They provide the delicate frosty icing on the instrumental cake, and can be used most effectively with harp, celeste and high woodwinds. They sometimes add a distinctive sparkle to a high string line as well. They are usually written an octave lower than the actual sound, to eliminate unnecessary ledger lines, as:

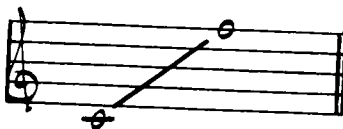



(D) The marimba is an instrument which has elements of both the xylophone and the vibraphone in its construction, but a sound all its own. Like the xylophone, it has wooden bars for notes, and like the vibraphone, these bars are equipped with resonators. But the sound is round, hollow and very "woody" in texture. The marimba is written in either treble or bass clef, sometimes a combination of both, since its range encompasses parts of each clef:



The sound of the marimba was originally associated primarily with Latin music, but its functions in the orchestra are many and varied. At the end of this chapter I will give you a few examples of the versatility of the marimba when combined with other instruments.

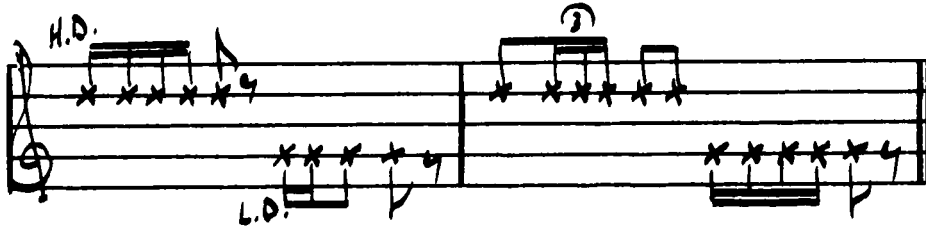
(E) Tubular chimes, the most common form of chimes used today, fall rightly in the category of mallet instruments and have a range of:



Written in the treble clef (), they are equipped with a damper pedal, a very important addition to the instrument, since they tend to blur when struck successive beats. The notes consist of a series of tubes of varying length, struck with wooden hammers, and are almost invariably played one at a time, because of the tendency to blur. Like the other mallet instruments, the chimes are non-transposing.

2) The Drum Family

(A) Bongos: two small drums of the same height, but of different diameters, thus producing a high sound and one lower in pitch. They are played with the hands and a good percussionist can perform very rapid and complicated rhythms on them. Here is an example of a part written for bongos, utilizing both the high and low drums:



Bongos are excellent for adding excitement to an otherwise **even** rhythmic pattern. For instance, if the sit down (or rhythm) drummer is playing a straight 4/4 beat of, say ♩ = 152, the addition of an interesting bongo pattern played by the extra percussionist or mallet man adds considerable excitement and tension, and contributes a lot to the color of the arrangement.

(B) The Conga Drum: considerably larger in diameter and much larger than the bongos, often in pairs, but just as often a single drum. It has a more guttural sound than the bongo and the impact of its beat is less incisive, due to its size. It is equipped with tuning tension rods and is, like the bongos, played with the hands. Differences of pitch can be achieved by playing near the rim (a higher sound), and near the center (lower sound). It is often used in conjunction with the bongos to achieve complicated rhythm patterns. The distance in pitch between the upper tones of the bongos and the lower tones of the conga drum afford a considerable area in which to work, thus adding to the many possibilities of these drums as a team.

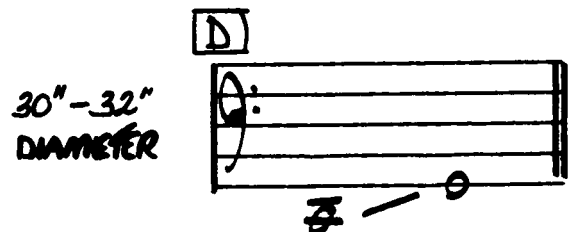
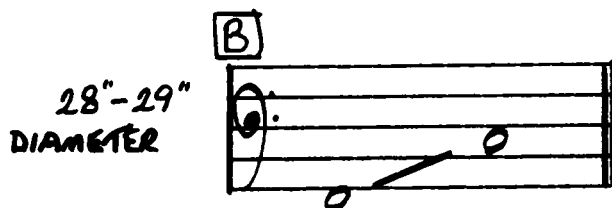
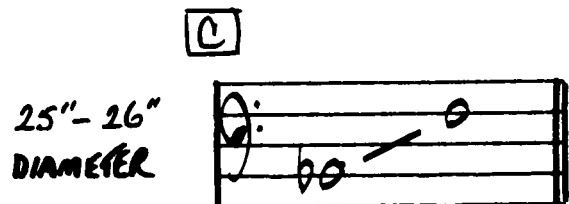
A passage to be played by the conga drum and a bongo drum might look like this:

EX. 74



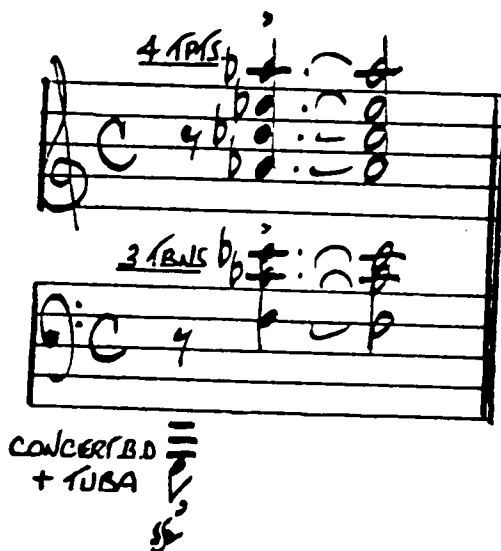
(C) Timpani: usually a series of drums, each with a different range possibility. They are played with mallets and, unlike the drums previously mentioned in this chapter, are capable of actual "true" tones or notes. They are played with mallets and are written in the bass clef (♭):

An example of the ranges of a battery of four timpani is as follows:



The drum marked D is fairly uncommon, and I have usually limited my writing to notes which would fall within the ranges of Drums A and B. The pedal mechanisms on these drums permit a glissando effect usually associated with "humorous" music. **Upward** glissandos are the most effective, with an overall range, bottom to top, of not more than a 5th.

(D) Concert (or Military) Bass Drum: a large, two-headed drum, mounted on a stand which permits the percussionist access to either head. In my early days as an orchestrator I tried repeatedly to emulate certain symphonic effects I had heard on records by writing the lowest possible note for tympani and adding an accent mark plus a dot (ˆ). I was consistently disappointed by the effect produced, since it lacked the awesome impact I had heard recorded. It wasn't until much later that I found the source of the sonorous boom lay with the concert bass drum. It is wonderful for heavy downbeats from which to bounce a syncopated brass chord:



The concert bass drum, unlike the timpani, is incapable of any true tone or pitch, hence the addition of the tuba. (*Note: This effect is not recommended for use in vocal backgrounds!*)

There are several other varieties of drums, notably field drums, timbales, piccolo snare drum, tom toms, etc., and were this a treatise on orchestration I would include all of them, plus dozens of other instruments known to percussionists and not necessarily falling into the category of "drum" (wind bells, tambourine, temple blocks, triangle, cow bells, ratchet, slapstick and enough to fill a book on their own merit). The best way to learn the usages of all of these and many more is to buy one of any number of books on the subject and, in conjunction with reading it, have a series of friendly talks with the percussionist of your local symphony. You will soon learn to incorporate all these aids into your "arranger's tool box," and to use them intelligently.

3) The Use of Instruments from the Percussion Family to Develop Orchestral Colors

The vibraphone can be used in single note sequence to reinforce and color a unison passage played by flutes.

EX. 75

4 FLUTES

VIBES
SOFT MALLETS — motor on

Example 75 shows four C flutes being accompanied by the vibraphone. You will note that the vibe part calls for soft mallets and is marked "motor on." This is to help the vibraphone blend with the flutes, and to create an echo-y quality when played. The flutes have been purposely written in their low, "fat" register, since the flutes and vibes are most effective down there. As the flutes ascend in register their tone thins out, while the vibraphone sounds more and more percussive, thus making a blend increasingly difficult.

EX. 76

ALTO FLUTE
(TRANSPOSED)

VIBES
SOFT MALLETS — motor on

Example 76 shows an alto flute doubled in unison by a vibraphone. The extreme roundness of the alto flute tone in the lower register contributes toward making this a very striking effect. Once again the markings for the vibes are "soft mallets" and "motor on." This insures the greatest probability of a blend between the two instruments.

Actually vibes can be used to double any instrument or group of instruments in the orchestra, as long as the tone of the instrument it joins is not so strong as to outweigh it.

EX. 77

4 TRUMPETS

VIBES
CUP MUTES — motor on

The xylophone could be substituted for the vibraphone in Example 77 and be reasonably effective doing so. The woody crispness of the xylophone would materially change the sound obtained, especially if the trumpets were in straight mutes instead of cups. The xylophone is especially useful in reinforcing short staccato chords in the higher register, as in Example 78.

EX. 78

4 TRUMPETS

Xylophone

Example 79 shows xylophone used with high woodwinds, also a very "striking" effect.

EX. 79

4 WOODWINDS

Xylophone

Clusters of notes, as illustrated, provide more effective doubling with xylophone than running passages, since, on these, the xylophone retains its own identity and swamps the woodwinds or strings it doubles with, whereas in clusters, its strong percussive quality tends to blend in more and enhance the total effect if separate from it. Xylophone can also be used to double pizzicato string passages, but here again, because of its unique brittle sound, it tends to dominate instead of enhance.

When it comes to doubling and strengthening other instruments, the marimba is more effective in the lower register than it is in the higher tones, where it tends to compete with the cleaner, most incisive tones of the xylophone.

In Example 80 I have written a passage for clarinets and marimba, doing trills in unison:

EX. 80

Handwritten musical score for Example 80. The top staff is labeled "4 CLARINETS trans." and the bottom staff is labeled "MARIMBA". Both staves show a series of trills in unison across five measures. The key signature has one sharp (F#) and the time signature is common time (C).

Example 81 shows marimba and stopped horn:

EX. 81

Handwritten musical score for Example 81. The top staff is labeled "3 HORNS" and the bottom staff is labeled "MARIMBA". Both staves show a melody in unison across five measures. The key signature has one sharp (F#) and the time signature is common time (C). The marimba part includes a "+" symbol above the first measure, indicating a specific playing technique.

Example 82 shows vibes and pizzicato cello, doubled with marimba:

EX. 82

Handwritten musical score for Example 82. The top staff is labeled "6 VIBAS", the middle staff is labeled "4 CELLO", and the bottom staff is labeled "MARIMBA". All three staves show a melody in unison across five measures. The key signature has one sharp (F#) and the time signature is common time (C). The vibas and cello parts include a "Pizz" marking above the first measure, indicating pizzicato playing.

EX. 83

Handwritten musical score for Example 83. The top staff is labeled "2 HORNS trans.", the second staff is labeled "2 CLARINETS trans.", the third staff is labeled "MARIMBA", and the bottom staff is labeled "ALTERNATING MARIMBA PERC". All four staves show a melody in unison across five measures. The key signature has one sharp (F#) and the time signature is common time (C). The top two staves include a "SOFTENING" marking above the first measure.

Example 83 is written for two horns with soft mutes, two clarinets, and marimba. This passage is of a sustained nature and shows the marimba tremolando, the only method other than trilling which it possesses to sustain a tone, since it is not a "motor" instrument like the vibraphone. (Note how the horns and clarinets are interlocked to ensure a better blend.)

The marimba player, in the example, plays with two mallets in each hand, to produce the desired four-note chord. The lower line of Example 83 shows an alternate one-note line which the marimba could play even more easily, but of course, uses the melody notes.

The glockenspiel, when doubled with woodwinds, provides a silvery edge which, due to its penetrating qualities, will be heard (as with the xylophone) over the sound of a full symphony orchestra!

Example 84 shows this usage:

EX. 84 GLOCKENSPIEL
3 FLUTES

Though two or more tones simultaneously are possible on a "glock," it is advisable to write a single note line, since the unevenness of quality, which is a characteristic of this instrument, makes it often impossible for the player to maintain a true musical balance.

As stated earlier, the "glock" can be used to put a touch of frosting on a string line, as in Example 85:

EX. 85
"GLOCK"
10 VIOLINS

Example 86 shows "glock" and harp at work together in an effective setting:

EX. 86
"GLOCK"
HARP

Writing a "glock" part containing notes to be played in rapid succession is not advisable, due to the tendency of the instrument to "ring over" into the next impact. Shown below is a phrase for flutes, together with a simplified "glock" accompaniment designed to avoid this situation.

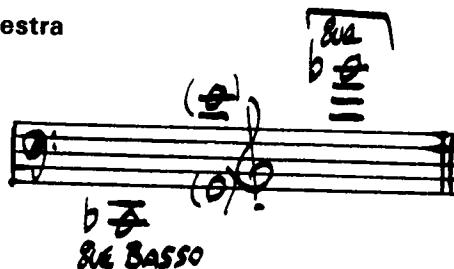
FLUTES
"GLOCK"

CHAPTER VI

Keyboard Instruments

1) The Harp: Its Use in an Orchestra

The range of the harp is:



Notes in parentheses delineate top and bottom of most practical register.

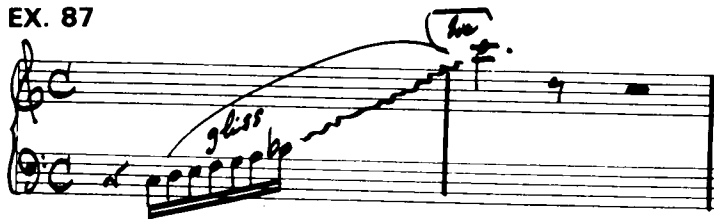
It is written on two staves, one treble, one bass, as you would write for the piano, and like the piano is non-transposing.

In order to use the harp effectively, it must be studied as a separate instrument, not with the intention of learning to play it, but in order to understand **fully** the difficulties encountered by any harpist in attempting to play the part the arranger has written.

The harp is built in the key of C \flat , with seven pedals arrayed around its base for the purpose of altering the tone of its strings. Harpists who are active in commercial music are a wary, knowledgeable group, and are used to changing the notation of the arranger in order to make the part practical to play. This process calls for making enharmonic changes, such as making a B \natural a C \flat , a B \sharp a C \sharp , etc. Often, by such editing, they can play everything the arranger intended—the notes, not the actual sound, having been altered. But if the harp part is too busy chordally, and if those chords change key rapidly with not enough time between them for the harpist to make use of the pedals, the harpist, and the arranger, is out of luck. The best thing to do is to organize a "Take a Harpist to Lunch Day" and follow it up, or precede lunch with harp and harpist, pencil and paper, in order to find out first-hand what is possible and what is not. The pitfall most arrangers are susceptible to is the mistaken idea that the harp, because of a vague similarity in construction, can be written for similarly to the piano. This is just not so, and a visit with a harpist and a perusal of Forsythe's book on orchestration will soon show why!

The most common usage of the harp is the glissando. Most harpists react favorably if you indicate the first seven notes on which the glissando is to be built, together with the beat it is to be commenced and another for its termination.

EX. 87



Example 87 shows a typical glissando. The content of this glissando resembles the sound of an "F" chord, starting and ending on the 5th.

EX. 88



With a knowledgeable harpist, Example 88 would provide the same sound, since many harpists of today have learned to read chord symbols as adroitly as a guitarist:

Some glissandos, however, will be more complicated harmonically, and these had best be written out, rather than approximated by a chord symbol. Example 89 shows such an instance:

EX. 89

Glissandi are very typical of the harp and its special contribution to orchestral color, but should be used sparingly and only when its effectiveness is noticeable.

Example 90 shows the glissando used to emphasize a crescendo in the orchestra:

EX. 90

You will notice that the glissando in Example 90 is very similar to that in Example 89, that in 90 being altered so that the accidentals conform more closely to the stated key of the signature (F, one flat):

EX. 91

Another usage of the glissando is as a short introduction, or pickup, to a section of the orchestra, as in Example 91.

A common use of the harp glissando is to simulate the undulating motion of the sea, or of the wind. There is no other instrument in the orchestra that can produce this effect as well, the piano being a poor approximation.

EX. 92



EX. 93



Arpeggios for harp are useful. Examples 92 and 93 show ascending and descending arpeggios. Harpists can execute these figurations at considerable speed, or slowly, as the occasion may demand, but in order for the harpist to set the pedals for 93, after having played 92, a few beats' rest (in a moderate tempo) should be inserted, as is indicated in Bar 2 of 92:

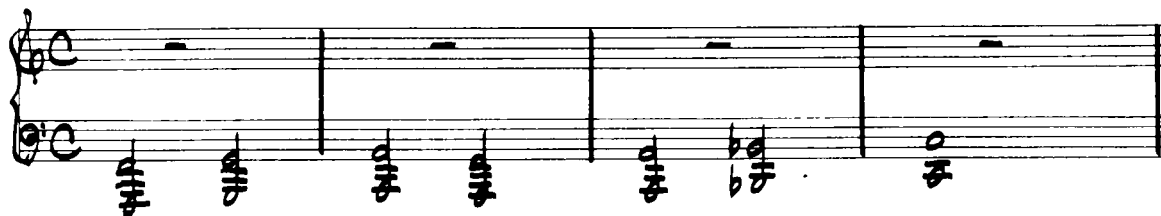
The harp is often required to play chords, either alone or to reinforce woodwinds or strings. As long as the accidentals are not too numerous, they can keep up quite nicely, but a fistful of flats and sharps suddenly appearing (or disappearing) in a series of chords can make the whole sequence come to a grinding halt, only to be resumed if a chord or two is chopped out of the part, or some of the chords simplified to make the pedal changes not so numerous.

EX. 94

Example 94 is a complex musical score for a full orchestra. It includes parts for 3 Flutes, 2 Clarinets, Harp, and Harp Alternate Line. The harp part is particularly complex, featuring a series of chords that change frequently. The other instruments provide a harmonic background with various melodic and harmonic lines.

Example 94 gives a series of chords played in conjunction with woodwinds. Written below Example 94 is an alternate line for harp, this time playing octaves only. When a fairly rapid passage of strings or woodwinds is to be accompanied by harp, and there is a reasonable doubt that the harp can keep up, octaves could be a solution:

EX. 95



The low notes of the harp are very effective, either alone or doubling some other instrument. Example 95 shows a harp part in the lower register. This part could easily have been doubling celli with the upper notes, basses with the lower, and would have added a certain clarity to both:

It is best, however, to keep the harp out of its **extreme** low register. The notes become progressively "grainier," "boomier," and lose definition and tone. The same applies to the extreme high register. As the harp ascends, the strings become shorter and less vibration is possible, producing a more metallic "ping" than actual tonality. The really **meaty** register of the harp is limited generally between:



I have given octaves because both of these sound well, but as you move around and experience from these parts, the characteristics stated above become increasingly apparent.

EX. 96



The harp is also helpful when doubling and reinforcing pizzicato strings. Example 96 shows how, by having the harp play only the important, accented notes of a pizzicato passage, the harp part becomes more playable, and, therefore, more effective. The harp part, when accompanying pizzicato strings, should be marked "sec," the French word for "dry," so that the player will stop the harp strings from vibrating, and blurring the overall effect:

Harmonics played on the harp are most effective, especially in "quiet" parts of an arrangement, when other sounds don't get in the way, for this effect is a very soft and delicate one.

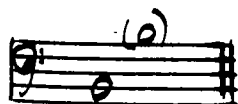
Harmonics are indicated by a small circle, drawn over the harmonic note. The harmonic "sound" is one octave above the note so marked.

For instance:

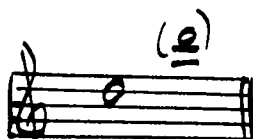


Only a group of strings in the center of the harp can produce harmonics.

The lowest is:



and the highest:



Harp harmonics are not effective when used as a solo passage for the instrument, since the delicacy is easily obscured by the sounds of other instruments. A very soft string cushion might be the exception, as in Example 97:

EX. 97

As you can see, the strings are marked "muted," are **pp**, and are written **sustained** in a low mellow register, leaving the middle and upper air free for the harp with no danger of the delicate harmonics being "covered."

For further information on the harp, I recommend the following book: *How To Write for the Harp in the Commercial Orchestra* by Lisa Coffey, Box 60562, Las Vegas, Nevada 89109.

2) The Piano

To my way of thinking, the piano, by the special nature of its tone, is neither a member of the rhythm section, nor is it an integral part of any other section of the orchestra. Like the harp, it stands apart, to be called upon for solo passages, or combining with other instruments, to help create special sounds and effects.

In the upper register the piano can combine its glossy, persuasive qualities with a unison string line to add greater prominence and clarity. Example 98 shows how this is done:

EX. 98

Example 98 is a musical score for Violins and Piano. The Violins part is written in treble clef with a key signature of one flat (B-flat) and a common time signature (C). The Piano part is written in grand staff (treble and bass clefs) with the same key signature and time signature. The Violins play a melodic line with many accidentals, while the Piano provides a harmonic accompaniment with chords and single notes.

The piano can be combined with woodwinds to give more harmonic substance and sparkle, as in Example 99:

EX. 99

Example 99 is a musical score for 2 Flutes, Oboe, 2 Clars, and Piano. The Flutes and Oboe parts are in treble clef, and the Clars part is in bass clef. The Piano part is in grand staff. The woodwinds play a melodic line with many accidentals, and the Piano provides a harmonic accompaniment with chords and single notes.

An obvious usage of the piano with the orchestra would be to augment the strings in pizzicato passages. The piano could be written in the same way the harp is used in a similar situation (Example 96), or the piano, due to its greater flexibility and crispness, could double the first violin in octaves playing the same passage. Example 100 shows how this would work:

EX. 100

Example 100 is a musical score for Strings and Piano. The Strings part is written in treble clef with a key signature of one flat (B-flat) and a common time signature (C). The Piano part is written in grand staff with the same key signature and time signature. The Strings play a melodic line with many accidentals, and the Piano provides a harmonic accompaniment with chords and single notes.

The piano can be used to considerable advantage in reinforcing orchestral passages in the low register. Though it does not possess the sustaining qualities of celli or basses, it can add to the "cutting" ability or impact of such instruments. Example 101 shows how:

EX. 101

Handwritten musical score for Example 101. It consists of three staves: CELLI, BASSES, and PIANO. The CELLI and BASSES staves are in G-clef and C-clef respectively, playing a melodic line. The PIANO staff is in G-clef and C-clef, playing a bass line. A handwritten note "(SOUNDS OCTAVE LOWER)" is written below the BASSES staff. A handwritten note "(ONE BASS)" is written above the PIANO staff.

EX. 102

Handwritten musical score for Example 102. It consists of three staves: CELLI, BASSES, and PIANO. The CELLI and BASSES staves are in G-clef and C-clef respectively, playing a single sostenuto passage. The PIANO staff is in G-clef and C-clef, playing a single sostenuto passage. A handwritten note "(SOUNDS OCTAVE LOWER)" is written below the BASSES staff.

Example 102 shows the piano being used to reinforce a single sostenuto passage for celli, basses, and bassoons. Were you to add trombones to this line, the value of the piano would be minimized, since the orchestral sound would be too large for the piano to make any significant contribution:

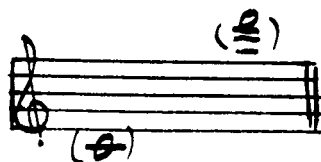
Example 103 shows a typical "roll" or fill which arrangers sometimes write for the piano, especially in the smaller orchestras.

Handwritten musical score for Example 103. It consists of a single staff in G-clef and C-clef, showing a single note with a roll or fill.

The effect is supposed to heighten whatever tension is present in the lower instruments, and even is expected to add a "quasi timpani" quality to the proceedings. In my experience this device never sounds like anything other than what it actually is, a poor attempt to stretch the dynamic scope of a combination already extended beyond its expectations.

3) The Celeste

The celeste's use is for the "tinkly gingerbread" which is an important part of some arrangements. It can be used as a solo instrument, but is more often combined with woodwinds, strings, or doubled with the harp. Its practical range is:



There are more notes on the celeste than indicated above, but they become piercing and uneven, the more so as one goes higher.

Most instruments are very uneven as to pitch and quality. Certain notes will "ping", giving more of the sound of impact than of the pretty tone characteristic of the instrument. Even in the "Mustel," supposedly the superior brand of celeste, the pitch is not constant from one note to the other, and, because of the construction of the celeste, it cannot be tuned, as one would tune a piano.

Nevertheless, all these negative features notwithstanding, the celeste imparts its own special charm to orchestration, and its uses are varied.

EX. 104

Musical score for Example 104. The top staff is labeled 'STRINGS' and the bottom staff is labeled 'CELESTE'. A bracket above the first measure of the strings staff is labeled 'MUTED'. The music is in 4/4 time and features a melodic line in the strings with the celeste providing harmonic support.

Example 104 shows the celeste used with strings:

EX. 105

Musical score for Example 105. The top staff is labeled '2 FLUTES' and the bottom staff is labeled 'CELESTE'. The music is in 4/4 time and features a melodic line in the flutes with the celeste providing harmonic support.

Flutes and celeste play prettily together, as in Example 105. Note that in Bar 4 of this example, the celeste does not do the little "turns" as played by the flute. This is because notes played too rapidly on the celeste tend to blur, not unlike the glockenspiel (as mentioned earlier in this book):

EX. 106

Musical score for Example 106. The top staff is labeled 'HARP' and the bottom staff is labeled 'CELESTE'. The music is in 4/4 time and features a melodic line in the harp with the celeste providing harmonic support.

Example 106 shows the celeste and harp written together:

Like the harp, but more limited in scope, glissandi are very effective on the celeste.



In this usage, the tendency of the celeste to "blur" when played rapidly is a help, not a hindrance.

4) The Harpsichord

The keyboard of the harpsichord is quite like that of the piano, but the tone, and therefore its usage, is quite different. The principle of the two instruments varies in that the piano employs a felt hammer to strike the strings, whereas the harpsichord brushes a quill against a taut string, thereby producing the sound.

The sound of the piano is crisp, incisive and bell-like, variations of this being achieved by the use of the soft pedal, the loud pedal, and no pedal.

The sound of the harpsichord, on the other hand, is metallic, delicate, and has a "remoteness" about it, almost as if the notes were resounding from the echo-y shadows of a dark, wooden panelled hallway. The sound of the harpsichord is tinny by comparison to that of a piano and, in the upper register, has a "tinkly" quality. Its color, however, is unique and unmistakable.

In recent years an electronic version of this instrument has been used frequently in "rock" rhythm sections, where its penetrating quality has added a unique quasi-baroque color to the proceedings.

The electronic harpsichord has a more strident sound than the delicate "tinkle" of its non-electronic predecessor, and therefore is not practical for use in the orchestra. When using the original form of the instrument, one should be careful that it is "close-miked" and that very little else is going on in the orchestra which might obscure its delicate sound.

Example 107 shows the harpsichord playing a busy, lace-like accompaniment to an alto flute solo:

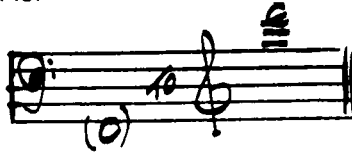
EX. 107

The musical score for Example 107 consists of two staves. The top staff is labeled 'HARPSICHORD' and the bottom staff is labeled 'ALTO FLUTE'. Both staves are in G major (one sharp) and 4/4 time. The Harpsichord part features a continuous, intricate accompaniment of eighth and sixteenth notes, creating a 'lace-like' texture. The Alto Flute part features a melodic solo line, primarily composed of eighth and sixteenth notes, with occasional rests. The piece concludes with a final chord in the Harpsichord part.

5) The Accordion

This instrument, often referred to as the "squeeze box," is uniquely useful in certain types of arrangements. It can be used successfully as "putty" to strengthen woodwind or string lines in a small orchestra, and in the hands of a capable player can be quite appealing as a solo instrument.

The practical range of the accordion is:



Its sound has a certain "continental" quality, being very characteristic of the Italian street songs, where a solo tenor voice with accordion accompaniment often constituted the complete personnel of the little strolling orchestra. Many accordions come equipped with a "concertina" stop, and can be used to give a French flavor to the orchestration. The accordion is also widely used in Latin orchestras and can give a colorful flavor to a tango or a merengue.

When using the accordion to "beef up" a small string section or a couple of clarinets, the lines played by the violin or woodwinds should simply be duplicated in the accordion part, as in Examples 108 and 109:

EX. 108

4 VIOLINS *DN/SL*

ACCORDIAN

EX. 109

2 CLARS

ACCORDIAN

6) The Electronic Organ

No instrument in recent years has had the impact on the orchestra such as that made by the electronic organ. The modern electronic organ not only has great value as a solo instrument, but can also simulate the color and texture of nearly every other instrument in the orchestra. Currently it is being used to reinforce brass sections, woodwind sections, string sections, rhythm and percussion sections, in addition to its usage as a solo instrument of great charm and flexibility.

So great are its capabilities that the pianist who hopes to play it intelligently and effectively must make a painstaking and prolonged effort to explore its potential.

If this is so, certainly the arranger must also diligently search out the treasures the organ possesses, so that he can take full advantage of all it has to offer.

The best way to do this by far is to befriend some capable player of the electronic organ and ask him endless questions concerning his instrument, and while doing so, take notes!

A fine musician named John Berkman was kind enough to contribute the material which follows:

The synthesist has the opportunity and luxury to be somewhat of a co-creator or at least an on-the-spot co-orchestrator with the composer or arranger. An example of this can be seen on the scoring stage of a TV or feature film where our synthesist may see in his music such instructions as "with strings," "with brass," "with woodwinds," and so forth. These unison or chordal figures very often could stand on their own as played by the acoustic instruments of the orchestra. The composer might have reasons - either dramatic or aesthetic - to add another dimension of sound to that particular musical thought. This could certainly alter greatly the dramatic intent of the score. The creativity for the synthesist opens up a series of options in this situation. He could use imitative synthesis which is self explanatory - or add his own touch using his ear and all the innate musicianship he can muster.

The once voice synthesizer such as the Arp 2600, the Moog Modular where each function of a sound must be individually patched, the mini-Moog and others have given way to the multi-voiced synthesizer. The most popular of these are the Prophet 5, the Roland Jupiter-8, the OBX (Oberheim) 8-voiced, the Yamaha CS-80 which is an 8-voiced synthesizer that is pressure sensitive, enabling the player to increase the frequencies (filtering) and/or the volume (amplitude) by increasing the finger pressure on the keys. There are several others of these, highlighted by the Rhodes-Chroma which is a microprocessor-based synthesizer system which can actually create an entire composition by being interfaced with an Apple 2 Computer.

With the advent of the synthesizer onto the scoring stage in film music and recording in general, the arranger or composer was, of course, generally unaware of the new language - the language of electronics. Even those with a smattering of acoustics or physics were still thinking of music; not in electronic terms at all. Let us now make a transition from the acoustic to the electronic by comparing terms.

What we think of as pitch must now become **frequency** which means cycles per second (cps) or **Hertz**. Tone is color (timbre) in electronic terms - now becomes the reducing (attenuating) or increasing the gain (volume) of certain **frequencies** by way of low pass filters (cutting off high end) or high pass (cutting off low end). It is most important to note here that the word **VOLTAGE**, at least in terms of the analogue synthesizer, becomes the byword for the synthesists.

Getting back to terms: articulation in terms of electronics involves the **ADSR** - which is the envelope generator. **Attack** - is the start of a sound, or in terms of electronics, the initial rise of voltage. **Decay** - would be the reduction of the voltage from its maximum to a **sustain** level. The **release** - is as it is stated.

Some of our best composers will occasionally instruct the synthesist to make the sound "more sine-wave." What he really means is that he wants a more mellow sound, probably less "hissy." A sine-wave is actually the fundamental of the overtone series. Example—the Sawtooth wave form contains all the partials and gives us brass and string sounds. The taking out of certain partials from the overtone series create different wave forms such as Square Wave (clarinet) or Rectangle for double reed and certain keyboard sounds. Adding to our basics is the oscillator which actually produces the voltage or wave impulses of alternating currents to the VCF (Voltage Control Filter) and to the VCA (Voltage Control Amplifier) - both of which are modified by the envelope generator (ADSR) - and so on down the line. Remember voltage control - it's the foundation for the synthesist who is using one function to control another. This is what analogue synthesis is...individual circuits whose function can be modified by control voltages.

The Computer Age is here - the microprocessor, the computer chips - the **DIGITAL INFORMATION!** The digital synthesizer creates a tone or group of tones by generating a rapid series of varying numbers. These are then converted to varying voltages like those coming from the analogue synthesizer. The way the numbers vary dictates the wave shape and its envelope. Digital synthesizers can also employ computers to generate sound and have the ability to sample acoustic sound and reproduce it throughout a keyboard.

The name **Vangelis** has become synonymous with the all - electronic score. Now, although these scores have usually been supplemented with percussion, strings and brass, the thrust is certainly electronic. The composer or arranger will give the synthesist a brass line to record to a pre-established click track or may lay down several other string or even percussion lines - **ALL SYNTHESIZED**...finally using most of 24-tracks to complete the works.

Digital

Employs a computer to generate sound knowledge of acoustics and mathematical knowledge. It has the ability to sample an acoustical sound and reproduce it throughout the keyboard.

Analogue

Analogue has individual circuits whose functions can be modified by control voltage.

Digital Synthesizer

— creates a tone or groups of tones by generating a rapid series of varying numbers. These are then converted to varying voltage like those coming from an analogue synthesizer. The way the numbers vary dictates the wave shape and its envelope.

ADDITIONAL READING

ELECTRONIC MUSIC SYNTHESIS

Concepts, Facilities, Techniques

by Hubert S. Howe, Jr.

Published in 1975 by W.W. Norton, N.Y.

SOUND STRUCTURE IN MUSIC

by Robert Erickson

Published in 1975 by Univ. of California Press

ELECTRONIC MUSIC. . . SYSTEMS, TECHNIQUES & CONTROLS

by Allen Strange

Published by William C. Brown

Second Edition - 1983

MUSIC, PHYSICS, & ENGINEERING

by Harry F. Olson

Published by Dover Publications, Inc., New York

Second Edition

SONIC DESIGN The Nature of Sound & Music

by Robert Cogan and Pozzi Escot

Published by Prentice-Hall, Inc.

Englewood Cliffs, New Jersey

MOOG MODULAR OWNERS MANUAL

by Dan Wyman

Published in 1981 by Norlin Music

Special thanks to Dan Wyman

CHAPTER VII

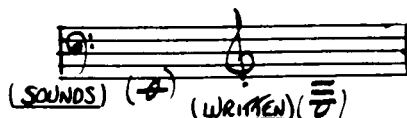
The Rhythm Section

1) The Guitar, the Banjo, and the Mandolin

The six strings of the guitar are tuned E, A, D, G, B, and E:

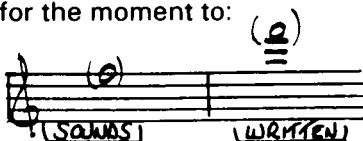


Though guitar parts usually consist of chord symbols, you must remember that when writing specific notes for the guitar, they sound an octave lower than written:



The low note, "E", is useful and effective, and is written as shown above.

The higher the note on the guitar, the more "ping" or impact is heard, and less tonality and resonance, so it would be wise to limit your writing for the moment to:



The two types of guitars most widely used are the acoustic and the electric. One of each is usually required in today's rhythm section, the acoustic for rhythm and the electric for embellishments.

Single-string passages are most effective when using the guitar to add color to the orchestra. The guitar can be written to play these passages alone, or doubled with other instruments to achieve striking effects. Example 110 shows the electric guitar doubling a muted trumpet:

EX. 110



Example 111 shows the electric guitar doubling the lead in a passage for woodwinds:

EX. 111



You will notice that Examples 110 and 111 contain very few sustained notes, and advisedly so, because the guitar, even when "electrified," has a limited ability to sustain a tone. The blend between the guitar and other instruments is a great deal more even and effective when it plays passages that move and are active. A melody consisting mainly of half notes, dotted halves and whole notes, played at a slow tempo by, say, trombones, and doubled by a guitar would be just that and no more. The guitar's contribution would be limited to a series of entrances or impacts, due to the guitar's inability to sustain a note.

The guitar can also be written in 3rds, 6ths, and other intervals, as in Example 112:

EX. 112



I have found, however, that it takes a guitarist of considerable skill to play such passages evenly and, if the tempo is fast, certain successions of 3rds and 6ths are scarcely playable at all!

The guitarist who is thought of as a fine rhythm player may not necessarily be a good "single string" performer, and some guitarists who read chord symbols quite glibly are completely intimidated by a series of eighth notes to be played "single string." It would be wise to know the capabilities of the player you are writing for before including a difficult series of single notes or intervals in his part. Another solution to the playing of 3rds or 6ths would be to have two guitarists play such a passage, giving a single line to each.

Another usage of the guitar is to have it double a chord, since guitars are also capable of striking a series of notes simultaneously, as in Example 113:

EX. 113



In this case the inability of the guitar to sustain is not important, since its reinforcement of the "impact" of the trombone is the desired contribution.

An interesting and colorful way to write for two guitars in a rhythm section is to have one, the acoustic guitar, play the rhythm part and the other, the electric, play a series of arpeggios based on the chords included in the rhythm part, as in Example 114:

EX. 114



There are many ways that the guitar can be used other than merely playing chords in the rhythm section. If the Fender bass is playing an interesting pattern that seems worthy of greater emphasis, the electric guitar can double this figure an octave higher.

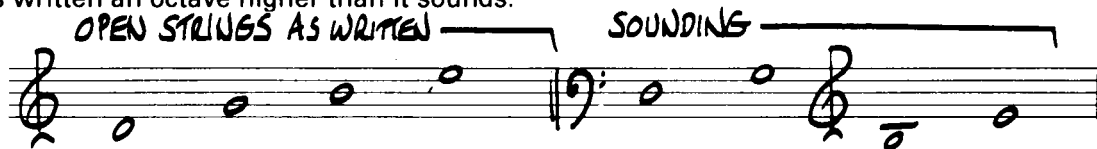
Should **any line** in the orchestration seem to benefit by additional strength being added to it, the electric guitar is an able assistant. As long as the guitar part does not exceed the extremities of range indicated in this chapter, it is safe to say that the electric guitar is a **great big** help to orchestration.

THE BANJO

The four string banjo, tenor or plectrum, could be considered a special effects instrument. It is used in music of the 20's and 30's, ragtime, Dixieland, Steven Foster and the civil war era, music of the old west, and certain types of folk music. It can be effective in substituting for the sound of the Samisan-Oriental sounding music.

For practical purposes the banjo is tuned like the top four strings of the guitar: D-G-B-E.

The range is D, sounding an octave below middle C, to G, sounding a fifth higher than middle C. Like the guitar, it is written an octave higher than it sounds:



The tremolo is an effective sound on the banjo:



Example 116 is typical banjo passage. The percussive sound and fast picking is a banjo trademark:



Chord melody is possible and can be used without accompaniment. Indicate the melody and chord symbols:



The Samisan effect could be written like this:



The five string banjo, blue grass or finger picking banjo is in another bag. The five string is most recognizable by the Drone string which is tuned to a common tonality that runs through the key of the music. The capo is used on the other strings to give the open string effect. The best way to write for the five string is to indicate the chord symbols, and let the player ad lib. Example 119 is an example of a five string part:

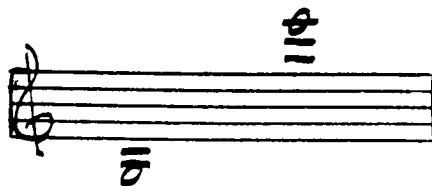


Usually a four-string banjo part will be played by a guitarist, doubling on banjo. But the five string demands a five string specialist.

In Gershwin's *Porgy and Bess*, the banjo is prominent in "I've Got Plenty Of Nothin'." The melody is doubled with bassoon. As you can see, the banjo can be utilized in many ways by the arranger.

The Mandolin is as "Italian" as the banjo is "cowboy" or "Old South" and as such, it is useful to pinpoint a particular color or characteristic.

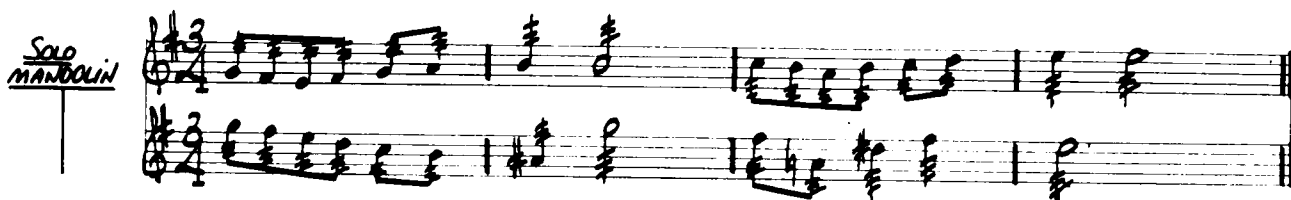
It has eight strings which are paired off in unisons to give a total of four tones. The mandolin has often been called the "plectrum violin" and its low note, like the violin, is "G". The highest note is "E":



(All notes sound where they are written.)

The mandolin is primarily a solo instrument, its brittle, metallic tone rendering it a poor blend in a rhythm section. Most mandolin solos are written "tremolando," thereby achieving a true Italian flavor. Example 120 shows how:

EX. 120



A quasi-Russian color can be achieved by having the mandolin play non-tremolando, at which time it takes on a color vaguely resembling that of a balalaika. Example 121 shows a mandolin written in this fashion:

EX. 121

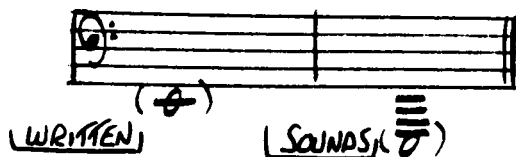


The information on the Guitar, Banjo and Mandolin was contributed by Bob Bain, as fine a friend as he is a musician.

2) The String Bass

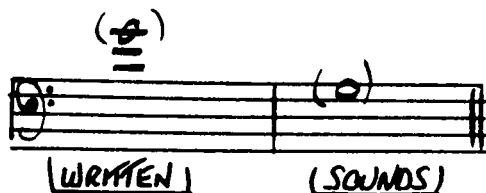
The string bass is included in this chapter due to its function as a member of the rhythm section. It will be dealt with later on in this book in its role as the low instrument in the string family.

The string bass is scored in the bass clef, and sounds an octave lower than written. The symphony double bass has a low note of "C", but the bass violin used in popular music starts with "E".

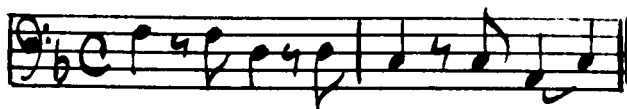


When the bass is plucked, the lowest tones are tubby and resonant and, logically, achieve more tonality and cleaner impact as one progresses upward until, in the upper register, the notes become increasingly thin and "ping-y."

It is hard to define the point at which the bass runs out of room, but my guess is that high "G" or "A" would be the limit of its effectiveness.



The old-fashioned, pre-Beatles, rhythm section used the bass in a variety of ways, sometimes a crisp "2":



Other music profited by the swinging motion of a "walking bass" in 4:



Still other passages for bass featured a quasi-Latin feel:



Primarily, the bass is the harmonic anchor of the rhythm section, and its notes should reflect the harmonic structure of the piece to be played. Example 122 shows the relationship of the guitar chords and the bass line:

EX. 122

Example 122 shows a musical score with two staves. The top staff is labeled 'GTR.' and contains guitar chords: Cmaj7, Am7, D9, Ab7, and G7. The bottom staff is labeled 'BASS' and shows a bass line with notes corresponding to the chords: C (root), A (3rd), G (5th) for Cmaj7; A (root), G (3rd), F (5th) for Am7; D (root), F (3rd), A (5th) for D9; Ab (root), Gb (3rd), F (5th) for Ab7; and G (root), F (3rd), D (5th) for G7.

The philosophy of **where** to write the bass two to a bar and where to write four to a bar is geared to the melody you are arranging and the tempo and feel of the arrangement. For instance, an arrangement of a slow ballad might benefit by keeping the bass "two to a bar" all the way, since the driving feel of a "4" bass might be entirely inappropriate. In an arrangement of a moderately "up" tune it might be advisable to start in "2" and add "4" as you go to the bridge, as in Frank Sinatra's *I've Got You Under My Skin*. This arrangement starts in a moderately relaxed style, but is constructed to build gradually in intensity so that by the time Frank is singing the release, a "4" bass is a great big help!

In planning out the arrangement, it is always wise to anticipate how it will sound and what is needed in the orchestration to make it "come off" the way you intend. At that time, you can plot out the rhythm parts and decide in advance where the bass is a "two" and where it goes to "four." Write these instructions not only in the bass part, but also in the guitar, drums, and piano parts. Often, as the arrangement is rehearsed, you will change your mind, or the members of the rhythm section will make suggestions as to the pacing of the parts. It is usually wise to listen to them, since the rhythm players have a perspective within the orchestra which is difficult to recapture at a distance. At any rate, you may at this time feel it is wise to change your markings. Do not hesitate to do so. It is no sign of weakness to change your mind at this point, and that change might well increase the effectiveness of the arrangement, which, after all, is what you had in mind anyway!

Another way of using the string bass effectively is to write double stops, whereby two notes are played simultaneously. For instance, a bass part of considerable power and character can be written like this:

Example 123 shows two musical staves. The top staff is labeled '(SOUNDS)' and shows a single note bass part with notes: C, D, E, F, G, A, B, C. The bottom staff is labeled '(WRITTEN)' and shows a double stopped bass part with notes: C, D, E, F, G, A, B, C, where the notes are written as double stops (two notes beamed together).

The brackets encompassing the notes are the indicators to the bass player that he is to double-stop notes, and any combination of notes playable, as long as the relationship of a 5th is maintained, **and** if the notes are in not-too-rapid a sequence. You would not, under any condition, double-stop a series of eighth notes, for two reasons: firstly, the impracticality of playing, and secondly (and more to the point), a series of 5ths tends to blur and thereby become ineffective. If you are contemplating adding double stops to a bass passage, consider the passing notes as the roots and add the 5th above in each case. An example of which notes to double-stop and which to play singly is shown in Example 123:

EX. 123

Example 123 shows two musical staves. The top staff is labeled '(SINGLE NOTE BASS PART)' and shows a single note bass part with notes: C, D, E, F, G, A, B, C. The bottom staff is labeled '(BASS PART DOUBLE STOPPED)' and shows a double stopped bass part with notes: C, D, E, F, G, A, B, C, where the notes are written as double stops (two notes beamed together).

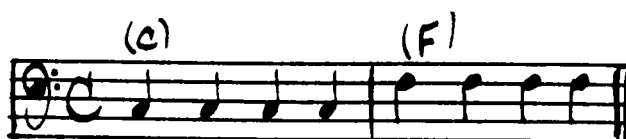
The string bass, written in double stops, has a peculiarly distinctive resonance which will reinforce and make "doubly" effective the bass line, especially when the double stops are used with taste and thought.

The Fender bass is a fairly recent addition to the rhythm section, and a most valuable one. The sound is rich, strong, and quite percussive. The range of the Fender bass is exactly that of the string bass, and most of the facts in the section on string bass apply to the Fender.

The Fender bass is, however, a much more facile instrument than the string bass and, consequently, Fender bass parts are often quite "note-y" and complicated. Actually, with the advent of the Fender, the whole concept of the rhythm section underwent a decided change, and with the change came a whole new series of bass lines!

The bass, instead of playing two or four unattached notes to a bar now often weaves itself into the arrangement with an intricate pattern of notes, interesting both melodically and rhythmically.

For instance, the simple transition from a "C" to an "F" chord formerly looked like this to a string bass player:



Now, in the time of the Fender bass, the same passage might be written thusly:



Notice the linking notes ("D,E,") which enable the bass line to move smoothly and actively between the "C" tonality of the first bar and the "F" tonality of the second. The eighth note pattern of these notes, together with the dotted eighths and sixteenths of Bar 2, help create the "double time" rhythm feel which is so characteristic of today's music, and is responsible, at least in part, for the dramatic change in pulsation and sensation.

This alteration in concept affects the **whole** orchestra from top to bottom, and later in the book we'll examine this in detail. Right now, however, we're primarily concerned with the rhythm section, and in Examples 124 and 125 I have shown just how these two bars look, first with string bass and the traditional feel, and secondly with Fender and the contemporary approach:

EX. 124

Example 124 shows three staves: GTR. (Guitar), STR. BASS (String Bass), and DRUMS. The guitar part has two measures, each with a single chord (C and F) and a simple rhythmic pattern. The string bass and drums parts show a traditional feel with four symmetrical beats per bar.

EX. 125

Example 125 shows three staves: GTR. (Guitar), STR. BASS (String Bass), and DRUMS. The guitar part has two measures, each with a single chord (C and F) and a simple rhythmic pattern. The string bass and drums parts show a contemporary approach with rhythmic subdivisions and anticipation.

In Example 124 the instruments are written to give four symmetrical beats to a bar. In Example 125 both the drum and guitar parts reflect the rhythm anticipation going into Bar 2, and the lower line of the drum part contains all the rhythmic subdivisions found in the bass part. Some drummers may find this unnecessary, even confusing, but I have adapted this method of notation because I feel that it transfers to the drummer more of a feeling of just what is actually going on in the rhythm section and has, therefore, a value.

All sorts of interesting lines are possible on the Fender bass. I'm sure that many of these are possible on the string bass but, due to the great resonance of the Fender, they sound with more authority when played on that instrument. Double stops are equally effective, perhaps even more effective in fact than on a string bass, due again to that characteristic resonance found only in the Fender.

Carol Kaye, one of Hollywood's most proficient Fender bassists, has written and published a very informative book on the Fender called **Electric Bass Lines**. It is a valuable addition to any arranger's library.

Finally, lest I seem too predisposed toward the Fender, let me say that, in certain situations, it is a poor substitute for the delicate and woody tones of the pizzicato string bass, which also, by the way, can be very effective when played "arco," that is, with the bow.

In the chapter on strings I will show how marvelously the string bass functions as the foundation of the string section.

3) The Sit-Down Drummer and His Traps

We have spoken in Chapter VI about the piano, but as a keyboard instrument rather than as a member of a rhythm section. Usually, except for certain effects you want to spell out, the rhythm piano part consists of a treble staff devoted to the string bass line. My own feeling concerning the piano in a rhythm section is that it is not a true member of same, but can be a definite asset if told to play fills and "lace-work" using both the guitar stave and the bass line as a guide.

In Chapter VII we have written about the guitar and the bass, both string and Fender, leaving one chair, the sit-down drummer, to be covered.

The phrase "sit-down drummer" is used to define the player who, sitting on a small stool devised for the purpose, plays a combination of drums and cymbals called **traps**, and thereby provides the basic rhythmic impulse which is the fundamental guide line for the whole orchestra.

The equipment for the "sit-down" or dance drummer in most contemporary orchestras consists of a bass drum struck with a foot pedal, a pair of high-hat cymbals manipulated by a foot pedal, and a snare drum, floor tom-tom, and any number of suspended cymbals and attached tom-toms.

All of this sounds dreadfully complicated, and to the player undoubtedly is. To the arranger, however, some of the complication is simplified in actual practice. Drum parts, as a rule, are the most neglected and sketchy of all the lines on the score page. Often you will see a drum part where the first bar or so is written out and the rest is merely indicated with a wavy line over which the word "simile" appears, together with a number indicating the additional bars needed to complete the part.

I personally have been guilty of the most slovenly omissions where drum parts are concerned, to the point where I have incurred the wrath of many a drummer who, trying to get his part to make sense, has left his stool with pencil and paper and made a trip to the brass section in order to copy down the accents and figures contained in the first trumpet part.

The wisest thing to do, it seems, unless your basic instrument happens to be drums, is to neatly straddle this weighty problem. Fill in most bars, indicating by word or notes, or both, the basic character of the rhythm desired. Example 126 is how I would sketch in a drum part. The movement of the brass section is indicated, to show what accents and figures might be important to the drummer:

EX. 126

The musical score for Example 126 consists of three staves. The top staff is labeled "BRASS" and is in treble clef. The middle staff is labeled "DRUMS" and the bottom staff is labeled "OR DRUMS", both in bass clef. The Brass staff contains a melodic line with various notes and rests. The Drums staff contains a rhythmic pattern using stems and flags. The OR DRUMS staff contains a similar rhythmic pattern with some additional markings.

The man who plays the drums will be very grateful if you show some attention when writing his part. On the other hand, a **too detailed** drum part may confuse and intimidate him. He plays the only instrument in the orchestra that does not absolutely require that the player be a fine reader, and many drummers have developed a fine rhythmic sense and a quick ear for rhythm patterns, each of which help them readily digest the contents of an arrangement. In this situation an over-complicated drum part could confuse them.

As in the bass, piano and guitar parts, it would be well to indicate when the rhythm section should play two beats to the bar, and where it should go to "four." Such markings at least form a starting point from which negotiations can progress.

You will notice in Example 127 that there is no indication as to which of his many instruments the drummer should use. He will help you by selecting those which are best suited to the music and, if his choice leaves something to be desired, a little diplomacy on your part will usually encourage him to search for other combinations, until you and he are satisfied with the resulting sound.

On the other hand, your arrangement may need the sound of a tom-tom to make it more "Indian" or "exotic," or whatever. Mark the drum part accordingly. Perhaps a rim shot or a cymbal shimmer may heighten the drama of the orchestration at some point. Write it in, and if you don't like it, change it. Example 127 shows tom-tom beats, cymbal shimmers, bass drum accents, high hat cymbal usage, etc.:

EX. 127

Handwritten musical notation for Example 127. The top staff is labeled "Tom Tom" and the bottom staff is labeled "BASS DR.". The notation includes various rhythmic patterns and accents. Above the top staff, there is a handwritten note "CYMBAL SHIMMER" with an arrow pointing to a specific measure. Below the bottom staff, there are handwritten notes "SOFT MALLETS", "HIGH HAT Cymbal", and "H.H." with arrows pointing to specific measures.

Dynamics are as important to a drum part as to any other part in the orchestra, perhaps even more so. A strong, aggressive drummer often does a great deal to "set the scene" musically, and he should be provided with whatever clues you have to give him. It is very difficult to induce most drummers to play softly, partially because they feel rhythmic responsibility very keenly, so merely marking a passage **P** may not do it. You must be firm in demanding from him the appropriate shadings, and it is always more effective if you can point to the dynamic markings on the part before him.

Most of above chatter is to convince you that drum parts, atonal though they may be, are not to be taken lightly!

CHAPTER VIII

Various Rhythms and How to Use Them

1) Latin Rhythms

Before writing this chapter I spent some time with two very knowledgeable gentlemen, Norm Jeffries and Emil Richards, both extremely proficient percussionists and both well known experts in their specialties.

Norm, a friend from my days in the Army, helped me with Chapter VII as well as with this one. Many arrangers become proficient in writing for strings and woodwinds and brass, but often neglect the percussion section, usually writing out a "drum" part containing the correct number of bars and telling the drums and percussion to follow the dictates of their own particular tastes.

More often than not, this works quite well. (I did it myself for many years.) But gradually I became disenchanted with this approach. A feeling of uncertainty and inadequacy started to grow within me, which led me to seek out Norm and Emil and to ask them how they felt about such an off-hand attitude toward their particular specialties (Norm is a fine and tasteful drummer and Emil knows just about all there is to know about percussion.)

Norm said that a simple drum part was adequate, but not necessarily one consisting of a series of repeats. He suggested that the part should contain the important accents in the orchestration, plus all dynamic markings and a notation at the top describing the mood to be set and the type of beat to be used. He said that markings of **how** that mood was to be achieved were not necessary, and that this could be the subject of a discussion between the drummer and the arranger.

Example 128 shows how to mark on the drum part the accents to be caught in the orchestration:

EX. 128

Bossa Nova
(♩ = 132)

ALTO I
ALTO II
TENOR I
TENOR II
BARY
TRP I
TRP II
TRP III + IV
TBN I
TBN II
TBN III + IV

DRUMS
(BOSSA NOVA)

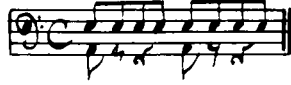
GUITAR
Gm⁹ Am⁹ Bm⁹ Eb⁹ Bm⁹ Eb⁹ Eb C⁷+^{b9}

BASS

My time with Emil was spent in discussing rhythms other than conventional patterns, since Latin, African, and various ethnic beats had always puzzled me.

Emil has apparently made a serious study of various rhythms and probed their derivation sufficiently to come up with the underlying form of each. He says that all **Latin rhythms** are related to a basic $\frac{4}{4}$ bar containing 8 eighth notes, and that by dividing the number 8 into various groupings, the subdivisions or accents are arrived at.

For instance: 8 eighth notes divided into two groups of four each look like this:



The same number of eighth notes divided into 3-3-2 look like this:



Example 129 shows how this pattern would look when played by the other instruments in the orchestra:

EX. 129

A musical score for Example 129, showing the 3-3-2 eighth note pattern played by various instruments in an orchestra. The instruments listed are:

- ALTO 1
- ALTO 2
- TENOR 1
- TENOR 2
- BARI
- TRP. 1
- TRP. 2
- TRP. 3+4
- TBN. 1
- TBN. 2
- TBN. 3+4
- DRUMS
- GUITAR
- BASS

The score shows the pattern for each instrument, with the guitar part including chord markings: A_m^9 , $B_m^{7\#}$, and C_m^9 .

A pattern of 3-2-3 is written as follows:



Refer to Example 127 and you'll see that with a small adjustment the 3-2-3 pattern can be arrived at. The groupings of 2-3-3 can be accommodated with equal ease.

Sixteenth eighth notes making up two bars in $\frac{4}{4}$ can be handled easily as 8 eighths, once a facility is built up by frequent usage. The 16 eighth note idea is attractive because it tends to do away with the deadly thump of a down beat, which occurs every four beats in $\frac{4}{4}$ tempo with boring repetition. For instance:

Sixteen eighth notes, divided 3-3-3-3-1, looks like this:



In the orchestra the same grouping is written as Example 130:

EX. 130

Orchestral score for Example 130, showing various instruments including Alto, Tenor, Baritone, Trombone, Trumpet, Flute, Clarinet, Bassoon, Drums, Guitar, and Bass. The score is written in 4/4 time and features a 3-3-3-3-1 pattern of eighth notes across the instruments.

The instruments listed are:

- ALTO 1
- ALTO 2
- TENOR 1
- TENOR 2
- BARI
- TR 1
- TR 2
- TR 3+4
- FL 1
- FL 2
- FL 3+4
- CLAR 1
- CLAR 2
- CLAR 3+4
- DRUMS
- GUITAR
- BASS

The guitar part includes chords: A_m^7 , B_m^7 , C_m^7 , B_m^7 , A_m^9 , and A_m^7 .

Other example of sixteen eighths are 3-3-3-3-1-3, 3-3-3-1-3-3, 3-3-1-3-3-3-3, 1-3-3-3-3, etc. All of these patterns are eminently practical and all tend to break up the leaden pattern of $\frac{4}{4}$.

Another very rewarding basis of variety is the use of five eighths, seven eighths, nine eighths, and eleven eighths, which are broken down thusly:

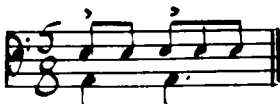
$$5 = 2-3$$

$$7 = 2-2-3$$

$$9 = 2-2-2-3$$

$$11 = 2-2-2-2-3$$

5 (2-3) looks like this:



In the orchestra, see Example 131:

EX. 131

7 (2-2-3) looks like this:



In the orchestra, see Example 132:

EX. 132

An interesting variation would be to place a $\frac{5}{8}$ bar and a $\frac{7}{8}$ together, thereby giving Example 131 and 132 in succession.

EX. 133

Example 133 is a musical score for a 12-measure piece, divided into two 6-measure phrases. The key signature is one sharp (F#). The score includes the following parts:

- ALTO 1**: Melodic line with eighth notes and accents.
- ALTO 2**: Melodic line with eighth notes and accents.
- TENOR 1**: Melodic line with eighth notes and accents.
- TENOR 2**: Melodic line with eighth notes and accents.
- BARI**: Melodic line with eighth notes and accents.
- TR-1**: Melodic line with eighth notes and accents.
- TR-2**: Melodic line with eighth notes and accents.
- TR-3+4**: Melodic line with eighth notes and accents.
- TBN 1**: Percussion line with eighth notes and accents.
- TBN 2**: Percussion line with eighth notes and accents.
- TBN 3+4**: Percussion line with eighth notes and accents.
- DRUMS**: Percussion line with eighth notes and accents.
- GUITAR**: Melodic line with eighth notes and accents, including chords A_m^7 and B_m^7 .
- BASS**: Melodic line with eighth notes and accents.

Afro rhythms, according to Emil, are based on twelve eighth notes, which could be four groups of three eighths.



Then again, the twelve could be divided five and seven, which in turn could be subdivided:

2-3 (5)	2-3-3 (7)
3-2 (5)	3-2-2 (7)
or	
3-2 (5)	2-3-2 (7)

Ethnic rhythms, Greek, Israeli, etc., are once again arrived at by utilizing a series of eighth notes. A $\frac{5}{4}$ rhythm can be broken down to ten eighth notes, and a $\frac{7}{4}$ can become fourteen. These numbers 10 and 14 can be doubled to make 20 and 28, from which any number subdivisions can be invented, using the method described under **Latin Rhythms**.

Page 1 of Emil's book, **Range Finder for the "Percussion" Seeker**, contains two lists, one of percussion instruments and one of Latin instruments. These lists are reproduced here with his permission. Reading them should whet the arranger's appetite to search further in his wonderful book. The title of the book you have above; the address which you will need to order the book is:

Emil Richards
5173 Santa Monica Boulevard
Hollywood, California 90029

The lists:

Percussion Instruments

Anvil, Bamboo Wind Chimes, Bell Plate, Bird Whistles, Boat Whistle, Brass Wind Chimes, Bulb Horn, Concert Bass Drum, Concert Snare Drum, Cow Bell, Cricket Clicker, Cymbal(s), Drum Set, Duck Call, Field Drum, Fight Gong, Fire Bell, Glass Wind Chimes, Gong, Jingle Sticks, Piatti Cymbals, Piccolo Snare Drum, Pop Gun, Ratchet, Ship's Bell, Slap-Stick, Sleigh Bells, Slide Whistle, Tabor, Tambourine, Tam Tam, Temple Blocks, Tom Tom, Triangle, Washboard, Wood Block.

Latin Instruments

Au-Go-Go, Bongos, Cabasa, Castanets, Cencerro (Latin Cow Bell), Chocalho (Shaker), Claves, Conga Drums, Cuica, Guiro (Scratcher), Jawbone (Quijada), Maracas, Maraca Sticks, Pandeiro, Puelli Sticks, Reco Reco, Sand Blocks, Timbales, Vibraslap.

Emil concurs with Norm in stating that many drum parts need not be notated fully, and that the drummer's or percussionist's taste and ingenuity can be relied on heavily. Nevertheless, as I stated before, the arranger should feel more comfortable if he has at least a token knowledge of what's going on in the rhythm section.

A brief review of familiar patterns usually categorized as "Latin" is necessary to complete this subject. So here goes.

Tango

EX. 134

(TANGO)

PERCUSSION **CASTANETS**

DRUMS

PIANO

GUITAR

BASS

Samba

EX. 135

(SAMBA)

DRUMS

PIANO

GUITAR

BASS

EX. 136

Bossa Nova
(Samba)

BRASSIA

DRUMS

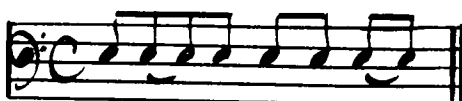
PIANO

GUITAR

BASS

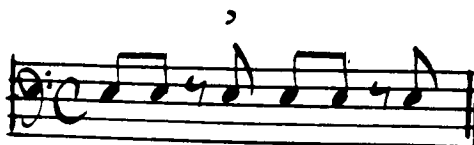
As you can see, the rhythms, when reduced to 8 eighth notes, are easy to trace, and conform to Emil Richards' analysis.

The tango is:



(or 1-2-1-1-1-2)

The samba is:



(or 3-1-3-1)

And the bossa nova is:



(or 3-3-2---1-4-3)

All these tempos are formed with groups of eighth notes which, when added together, always total the number "8."

CHAPTER IX

The String Family

The string family of the modern orchestra is comprised of four types of stringed instruments: the violin, the viola, the cello and the bass viol.

In the symphony orchestra, large numbers of each of these instruments are employed to get the rich resonance and sound associated with the classics. The London Philharmonic, for instance, carries 16 first violins, 14 seconds, 12 violas, 10 celli, and 7 basses.

The orchestra which plays commercial music seldom, if **ever**, has such large groups of strings at its disposal, though nowadays symphony orchestras are increasingly receptive to the inclusion of "pop" in their summer repertoires, in an effort to woo larger ticket sales by playing music which appeals to the masses.

In short, it is best to know how to write for a very large string section, as well as the smallest.

Certain principles of balance apply to the use of strings, and the guidelines are applicable to all sizes of string sections.

For instance:

2 violas = 3 violins in weight of sound.

2 celli = 4 violins in weight of sound.

3 violas = 2 celli in weight of sound.

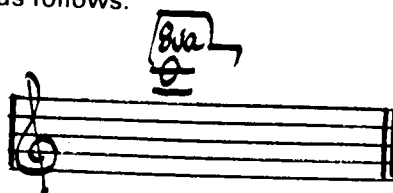
String basses are not as carefully balanced in commercial music as they are in the symphony, since the usage is quite different. In commercial music the string, or double bass is seldom used in its arco, or bowed form. More often the string bass functions as part of the rhythm section, and is most effective when operating singly, since pizzicati played by two basses simultaneously is muddy and lacks the drive and singleness of purpose achieved by one good bassist.

When the arco possibilities of basses are to be used, the balance has to be calculated more precisely, as is the relationship of violins to violas or violins to celli.

A good rule of thumb is to have at least one string bass for every two celli, and when in doubt, add a bass for good measure. There is nothing so moving as a long, well constructed arco line played by a half dozen expert bass viols.

1) The Use of Violins

The violin has four strings, tuned as follows:



It is a non-transposing instrument, the notes sounding exactly as they are written. The violin is capable of all sorts of musical calisthenics. As a trombone player I have always been aware (sometimes painfully) of the limitations of my horn, and was therefore properly amazed when, in my early encounters with the violin, I realized that **that** instrument has practically none!

The lower extremity of the range of the violin is of course the "G" below middle "C." The upper limitation is considerably dependent on how high the violinist can play and still be in reasonable pitch. For instance, I frequently write violin parts up to the "C" above high "C."



There are at least two factors, however, which must be considered when writing violin parts to a great height. One is the tendency of the violin to "thin out" as it climbs, which means that the upper notes, to be effective, must be reserved for the large string section. To write a "C" above high "C" for the violins of a six-violin section is quite foolish since the note, even if played in tune by all six, is thin and ineffective. Such heights should be reserved for sections including at least eight violins, more if possible.

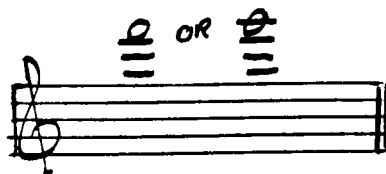
The medium has to be considered as well. If you are writing an arrangement for a recording session, a skillful engineer can place the string "mike" in a position that will ensure a warm intense "C" above high "C," even though the violins may number as few as the eight I mentioned.

If, on the other hand, you are writing an arrangement to be played on "live" TV or, say, at an outdoor concert, eight violins playing at a considerable height can sound very "puny," because in each case the amplification equipment is subordinate to the other aspects of the performance. In the case of "live" TV, the room in which the performance takes place is seldom constructed to accommodate musical sound. Big "boomy" stages at TV studios can accommodate sets, cameras, lighting equipment, and often a sizable audience, but as areas to pick up live music they just can't compare to a recording studio. Because of this, the music accompanying a live TV show is often pre-recorded, but just as often it is recorded in the same booming barn in which the show is to take place, so that the music of the show, whether pre-recorded or "live," will have a uniform sound. The grips, the cameramen, lighting technicians, and all other members of the staff are requested to be quiet until the recording is completed — none of which helps the basically wrong construction of the room for the purposes of recording music!

In the case of an outdoor concert, it is merely the fact that much of the musical sound escapes into the atmosphere which causes the problem.

All this preamble is to caution you to be aware of the conditions under which the music is to be performed and to write accordingly.

A violin section of modest size, say six to eight violins, should be limited to playing a high "F" or "G" above high "C," **unless** the arrangement is for a recording session under recording conditions.



The other factor to be considered when writing high passages for violins or stringed instruments in general is intonation. Good violinists generally play in tune. One way to help them is to avoid any awkward leaps between notes. Each change of note requires a change of position of the player's fingers on the neck of the instrument. The larger the instrument, the more drastic the change of finger position, and since there are no guidelines on the neck of the instrument, the leap of the fingers is guided by the skill of the player. It is best not to test such superhuman abilities too frequently. So my suggestion is to approach all high notes logically, even scalewise if possible.

Example 137 shows a dangerously written high passage:

EX. 137



Example 138 shows the same high note approached more logically and therefore more safely:

EX. 138



Please remember that when a group of violins is playing high notes in unison, you may have as many versions as you have players as to the exact pitch of those notes. Unless you try to make it easy for **them**, they can make it very difficult for **you**!

Strangely, skips **downward** are no such hazard, and most of these can be accomplished safely and effectively. Example 139 shows such an interval, and though it looks venturesome on paper, it is extremely practical and satisfactory:

EX. 139

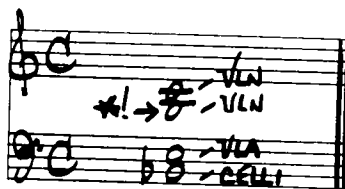


In the case of the very lowest note "G," all is well except when including it in a chord for strings, the problem being that very little vibrato is possible on this note. A vibrato is a very quick and tasteful alternate between just above and just below the note to be played. And in this case there is no room **below**.

Since the notes above and below the "G" are all capable of being played with vibrato by the lower strings, the violin "G" tends to stick out like a sore thumb, since it is an open string, making for an uneven blend in the chord.

Example 140 shows such a chord, with the culprit carefully pointed out:

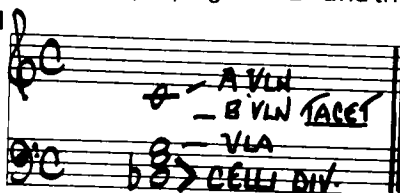
EX. 140



This chord, a C chord with the 7th in the bass, is not always available, and there are three solutions for making its blend more palatable. The first is to divide the violins so that there are fewer instruments playing the offensive "G." For instance, in the case of ten violins, six can play the "C" above the "G," leaving four to play the "G."

The second solution is to re-voice the chord so that half the violins are playing the "C," half are tacet, and the violas take over the "G," with the cello divisi playing the "E" and the "Bb." This is shown in Example 141:

EX. 141



The third, and easiest, solution is to use the original voicing and instruct the B violins to play the "G" one degree softer than the rest of the string section is playing. This is a perfectly satisfying remedy if the chord is of fairly short duration, say a whole note at medium tempo.

Double stops are plentiful and easy to perform on the violin, but in string writing I prefer to confine their use to the cello. My reason for this is simply that in a commercial orchestra the strings are almost invariably outweighed by the reeds and brass, and any subdivision of the strings themselves tends to weaken their already fragile balance within the orchestra. Orchestration is often a battle of balance, with the string section the most in need of protection.

In writing an arrangement where **only** strings are involved, double stops, especially in a small group of violins, are quite useful. The Cecil Forsythe book on orchestration covers the area in great detail.

Another approach to obtaining knowledge on the subject is to sit for a half hour with a friendly violinist. You often get more usable information from a musician in the orchestra than from some cryptic chapter in a book on the subject. The advantage of the book is that its information is **always** available.

Pizzicato (notes made by plucking the strings) is a very effective device, within certain limitations of speed and range.

A beat or two of rest is necessary for the player to go from arco to pizzicato and back to arco again. Speed of execution is more limited by clarity than by the player's ability to play rapidly. Pizzicato played too rapidly becomes blurred and ineffective.

The higher the note plucked, the shorter the distance from the player's finger to the neck of the instrument. (Thus, a shorter area of the string available to vibrate.)

A practical ceiling for pizzicato would be the "C" above the treble staff:



Notes above this one, when plucked, tend to contain increasingly more "ping," or impact, than actual tone, and are therefore less pleasant and musical. Example 142 shows a passage written to be played pizzicato:

EX. 142 *Pizz-mv.*

8-VLNS

2-VLA.

2-CELLI

Harmonics are occasionally useful and provide another tone color or tool for the arranger. They have a very "flutey" quality and are available chromatically upward from "G" within the treble staff to an octave above high "A":



Harmonics, though effective, are very delicate, and care should be taken that they soar above the orchestra with a minimum of obstruction. Example 143 shows a phrase for violin harmonics, accompanied by woodwind chords played lightly.

EX. 143 *HAR*

Note how the violins are marked "har," in directing that the whole passage is to be played in harmonics, and that the actual sound, when played, is an octave above the written note.

A more correct way to write harmonics is to add a small diamond a 4th above each note to be played as a harmonic. In this case the written note is placed two octaves below the desired sound. Example 144 shows the violin passage in Example 143 written this way:

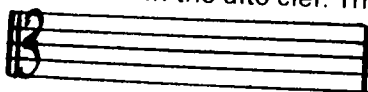
EX. 144

The result is the important thing, however, and, if the string players accept "har," plus a line indicating how far the harmonics are to continue, you can discard the more laborious diamond.

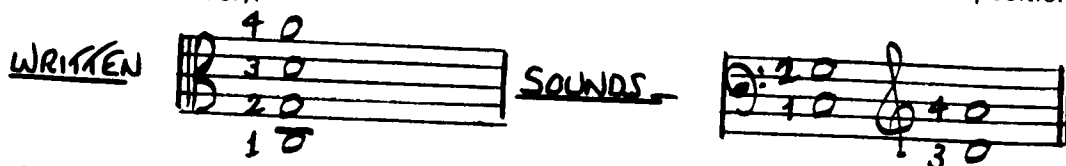
2) The Use of Violas

Violas are the linkage between the violins and the celli. Apparently they are quite difficult to play expertly, and only a few violists I have come in contact with can play an effective solo.

The viola is a transposing instrument written in the alto clef. The alto clef is designated so:

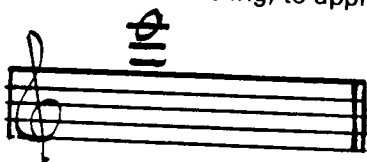


The center of the alto clef symbol rests in the middle line of the staff and designates the position of middle "C." The viola is tuned thusly:



When writing for the viola, an attempt should be made at the outset to "think" in viola, or alto, clef. This eliminates confusion which occasionally arises as to the placement of accidentals, and develops speed and accuracy of notation. It is not easy, but good habits developed at the beginning eliminate the need for bad habits to be broken later.

The range of the viola is from low "C," the bottom string, to approximately high "E" of the treble clef.



As a viola passage climbs upward, encompassing more and more ledger lines, it is wise to change over to the treble clef. For instance, high "G" in alto clef is written so:



The same note in treble clef looks like this:



I have selected "G" as a good place to switch over from alto clef to treble. Of course, in a descending passage the reverse is true, and a change from treble to alto clef should occur at the same place.

Violas are useful in many ways in the string section. They can be used in unison with violins, as in Example 145, or they can be used as a third voice in a triad when violins form the first and second parts (Example 146). They can also be used to form chords with the celli (Example 147).

EX. 145



EX. 146



EX. 147



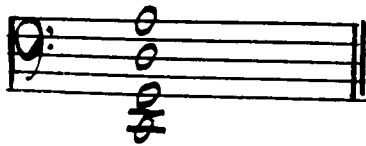
Always remember, however, that when mixing violas with violins or violas with celli, that the rule of balance is:

2 violas = 3 violins.

3 violas = 2 celli.

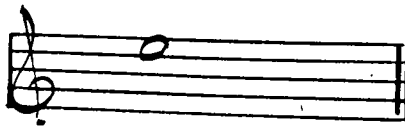
3) The Use of Celli

The cello forms the rich foundation for the string section. It is written in bass clef (C_2) and is tuned so:



Celli are soulful and warm when given unison passages, and are rich and full when they are given chords to play.

The low note is, of course, the low "C" played by the bottom string, but the upper register is determined largely by the skill of the players involved. A safe bet would be perhaps high "E" in the treble clef:



Though cellists playing symphonic repertoire deal in **three** clefs (bass, tenor, and treble), the tenor clef can be eliminated by today's arrangers, leaving the bass clef to be used when the cello is in the normal register, with a change-over to treble clef as soon as ledger lines become too numerous to write comfortably.

Double stops are most useful and can be used in a small cello section to fill out chords.



6ths, 5ths, and 4ths are the most common intervals used in double stops for celli, and all are practical until the notes become too high above the bass staff.

4) The Use of Basses

In Chapter VII the string bass was mentioned briefly, in its role as a member of the rhythm section. It has an equally important function as a member of the string family.

In an all-string orchestra, playing a non-rhythmic or rubato passage, the string bass fulfills the same purpose as, say, the tuba in a brass choir. When there are two or more basses, one can be reserved to accent the bass line with pizzicato notes at certain important points.

Example 148 shows a fairly large string section supported by two basses, one arco, one pizzicato:

EX. 148

Example 148 is a musical score for a string section. It consists of four staves: 12 Violins (12 VLS), 4 Violas (4 VLS), 4 Celli (4 CELLI), and two Basses (BASS 1 - ARCO, BASS 2 - PIZZ). The music is in 4/4 time and features a variety of notes, rests, and dynamic markings such as *pp*, *mf*, and *f*. The score is divided into two systems, each containing four measures. The first system shows the initial entry of the instruments, while the second system continues the melodic and harmonic development. The basses play a supporting role, with one arco and one pizzicato part.

Basses can also be quite effective when double-stopped, pizzicato. Example 149 shows their usage in a quasi-mysterious type of introduction I have written many times. Notice how the basses are marked one dynamic softer than the celli, in order to achieve a good balance:

EX. 149

Example 149 is a musical score for a string section. It consists of four staves: 12 Violins (12 VLS), 4 Violas (4 VLS), 4 Celli (4 CELLI), and two Basses (2-BASSES). The music is in 4/4 time and features a variety of notes, rests, and dynamic markings such as *mf*, *f*, and *p*. The score is divided into two systems, each containing four measures. The first system shows the initial entry of the instruments, while the second system continues the melodic and harmonic development. The basses play a supporting role, with both parts marked *pizz* (pizzicato).

5) Conclusion

Strings as a section offer many interesting ways to present the same melody. Examples 150, 151, and 152 show the same melody with three different approaches.

EX. 150

Example 150 shows a musical score for strings. The top staff is for 8 Violins (8 VLNS), the middle for 2 Violas (2 VIAS), and the bottom for 2 Celli (2-CELLI). The Violins play the melody in unison, while the Violas and Celli provide a rich chordal accompaniment.

EX. 151

Example 151 shows a musical score for strings. The top staff is for 8 Violins (8-VLNS), the middle for 2 Violas (2-VIAS), and the bottom for 2 Celli (2-CELLI). The Celli play the melody, while the Violins and Violas play tremolando chords. The Celli are marked *mf* and the Violins/Violas are marked *p*.

EX. 152

Example 152 shows a musical score for strings. The top staff is for 8 Violins (8-VLNS), the middle for 2 Violas (2-VIAS), and the bottom for 2 Celli (2-CELLI). The Violins and Violas play the melody in chords, while the Celli form a thumblane accompaniment.

In Example 150 the violins play the melody in unison, with the violas combining with the celli in a rich chordal accompaniment:

Example 151 has the celli playing the melody, with the violins and violas playing tremolando chords. Notice that the celli are marked one dynamic degree above the "piano" of the violins and violas to ensure the melody being heard:

Example 152 shows the violins and violas playing the melody in chords, with the celli forming a thumblane accompaniment. In this example, the chords are slightly imbalanced in that the old rule of 2 violas = 3 violins is violated by a fraction.

The players themselves can adjust this by having the violins play a little softer than usual, or the violas a little louder, or a combination of both.

Examples 150, 151 and 152 can be played equally well by larger groups of strings than the 8, 2, and 2 indicated. 12 violins, 4 violas and 4 celli would sound very full.

The parts, however, have to be divided a little differently in order to accommodate the added players. Examples 153, 154, and 155 show how:

EX. 153

12 VLNS

4 VLAS

4 CELLS

EX. 154

12 VLNS

4 VLAS

4 CELLS

EX. 155

12 VLNS

4 VLAS

4 CELLS

Example 156 shows the same melody written as a passage for pizzicato strings:

EX. 156

12 VLNS

4 VLAS

4 CELLS

I have found that the following combinations of strings are the most ideally balanced:

- 8 violins, 2 violas, 2 celli
- 9 violins, 3 violas, 3 celli
- 10 violins, 3 violas, 3 celli
- 12 violins, 4 violas, 4 celli
- 18 violins, 6 violas, 6 celli

I have also found that the string section of the orchestra is perhaps the most beautiful and rewarding of all the orchestral sections. The brass players and woodwinds are most essential in their place, but a well staffed string section is a thing of grace! They can serve as the putty of the orchestra when they are written as a velvet cushion on which to display the sparkling woodwinds or the rich brass, or they can play graceful exalted passages when written soli. Like the parent who hardly dares admit he has a favorite child, I'm afraid I am most sympathetic to, and appreciative of the sounds of, the string family.

This chapter would not be complete without a brief reference to muted strings.

A muted string section produces a sound that seems covered with velvet. Gone is the "stringy stridency" which occasionally emanates from strings and the blend, however uneven when played open, is vastly improved when played muted. That is one of the wonderful aspects of mutes - the blend, whether it be a small section or a large one, improves magically with their use. The other benefit derived from the use of muted strings is the change of pace which is achieved through change of color. An intelligent arranger is constantly looking for freshness and variety, and the use of muted strings is another tool which he may find most helpful.

A word of caution: give the string player the bar or two of rest (depending on the tempo) necessary to place or remove the mute on his instrument. The Italian word for a muted passage is "sordini"; for an open passage "senza."

CHAPTER X

The Use of Voices in Arranging

1) Mixed Voices

Male and female voices fall into four general categories. Those girls with higher voices are classified as "sopranos," those with lower voices are called "altos." The men having higher voices are called "tenors," those with lower voices are designated "basses."

Additionally, there are two subdivisions in these categories: female voices slightly lower than the altos are called "contraltos," and men whose voices are lower than tenors but higher than basses are called "baritones."

In writing for larger groups of voices the contralto can be assigned to the alto parts, but it is quite useful to give baritones their own line when scoring male voices, since the all-important root of a chord of any depth had best be assigned to a bass voice (or voices) to insure greater sonority and resonance.

In order to get a better concept of the timbre and use of voices, it might be helpful to associate each of the various types of voices with the instruments in the orchestra they most resemble.

Sopranos are like flutes, trumpets or A violins.

Altos are like oboes, flugelhorn or B violins.

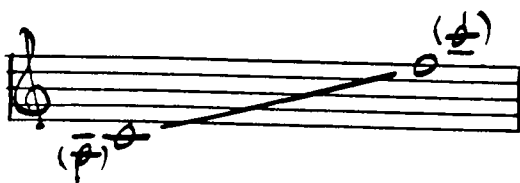
Tenors are like clarinets, French horns or violas.

Baritones resemble bassoons, tenor trombones or celli.

Basses are like contrabassoons, tubas or double string basses.

The ranges of the voices are not identical to their instrumental counterparts, but somewhat similar.

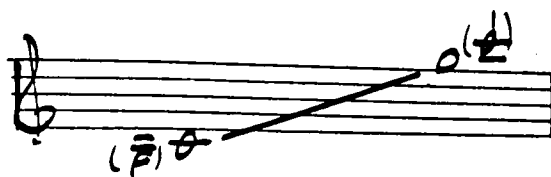
Soprano Range:
(Parenthesized notes
are possible extensions)



Alto Range:

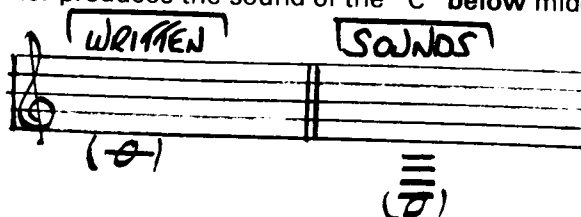


Tenor Range:

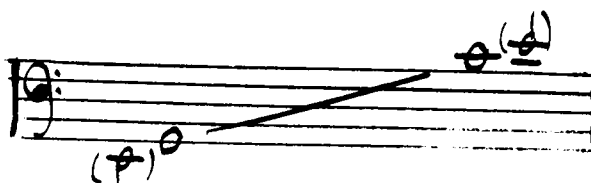


NOTE: It is important to be aware that the tenor part, though written in the treble clef, actually **sounds** an octave lower.

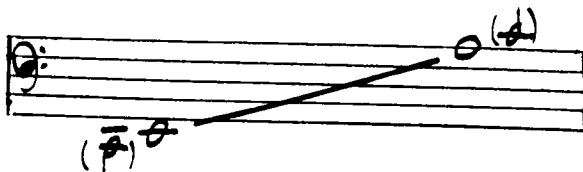
A middle "C" written for tenor produces the sound of the "C" **below** middle "C," etc.



Baritone Range:
(Note: written in bass
clef, sounds as written)



Bass Range:



Voices can be used to reinforce existing lines in the orchestra, as Ray Conniff did so effectively, or they can be used independent of the orchestra, performing the function of a soloist, with the orchestra used as an accompanist.

EX. 157

F. BRIGHTLY $\text{♩} = 160$

The musical score is written for a full orchestra and choir. The instruments and voices are listed on the left side of the page, with their respective staves. The score is written in a handwritten style, with various musical notations including notes, rests, and dynamic markings. The tempo is marked as $\text{♩} = 160$. The score is divided into two systems, with the first system containing staves for Flutes, Oboes, Clarinets, Bassoons, Horns, Trumpets, Trombones, Basses, Cymbals, Drums, Harp, and the second system containing staves for Soprano, Alto, Tenor, Baritone, Bass, Violins, Viola, Cello, and Bass. The score is written in a key of D major, as indicated by the key signature of two sharps (F# and C#).

FLUTES
I
II

OBOES
I
II

CLARINETS
I
II

BASSOONS
I
II

HORNS
I
II

TRUMPETS
I
II

TROMBONES
I
II

BASSES
I
II

CYMBALS
I
II

DRUMS
I
II

HARP
I
II

CHOIR
SO
AL
TE
BA
BAS

VIOLINS
I
II

VIOLA
I
II

CELLO
I
II

BASS
I
II

Example 158 the latter:

EX. 158

(BRONKHUT) $\text{♩} = 160$

FLUTES
I
II

OBOES
I
II

CLARINETS
I
II

BASSOONS
I
II

HORNS
I
II

TRUMPETS
I
II

TROMBONES
I-II

BASSES

TUBA

DRUMS
CORNAL W/SHAWM

HARP

CHORUS
SOPRANOS
ALTO
TENORS
BASS
BASSES

VIOLINS
I
II

VIOLA

CELO

BASS

Notice that in Example 157 the choir is written to reinforce the orchestra, and vice versa, but in Example 158 the voices function as an entity and the orchestration is quite transparent. Both techniques are effective and it depends entirely on what is desired as to which approach you take. A factor that might affect the decision is the size of the choir. If there are as many as eight girls (four sopranos and four altos) plus twelve boys (four tenors, four baritones and four basses), then the approach used in Example 158 is quite feasible, since the choir is strong enough to assert itself. Fewer singers, however, might not be as effective, and then Example 157 would be the one to use.

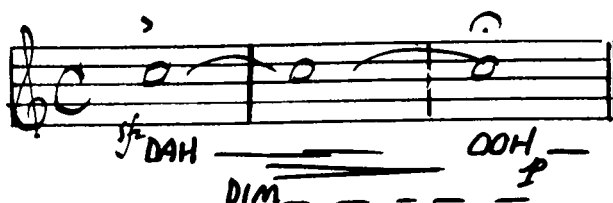
Singers are used to reading a multi-staved part and the way their parts are written in Examples 157 and 158 is correct.

In music where lyrics are not sung it is necessary to mark the parts with various combinations of letters in order to achieve the effect and sound desired.

"AH" is an open-throated sound; the mouth is partially closed singing the word "OOH" and totally closed by using the letters "MM," which results in a "humming" effect.

Incisive, clipped sounds can be produced by marking the notes with a "doo," "dup," "dut," etc. Some variations of these effects can be achieved by singing to yourself before marking, and thereby arriving at the proper sound. The above notations apply to notes of short duration (eighth notes and quarters), whereas the "AHs" and "OOHs" are used in sustained passages.

An interesting application of these sounds to achieve the desired effect in the music would be to start a sustained note with an attack (*sforzando*), and fade the note to a "P," as below:



The reverse, starting "p" and building to "f," is of course also very effective.

2) Female Voices

The ladies can be used very effectively by themselves, without the support of men's voices.

Two of my favorite ways to use girls' voices are low unisons, which often arrive at the roundness and warmth of low flutes, and high (but not uncomfortably high) triads.

Examples 159 and 160 show a little of each usage:

EX. 159

Handwritten musical score for Example 159, featuring Soprano and Alto voices. The score is written on two staves, both in treble clef with a key signature of one sharp (F#). The time signature is common time (C). The Soprano part begins with a half note G4, followed by a half rest, then a half note A4, and a half note B4. The Alto part begins with a half note G3, followed by a half rest, then a half note A3, and a half note B3. Both parts are marked with 'DOH' and 'AH' syllables. The score concludes with a double bar line.

EX. 160

Handwritten musical score for Example 160, featuring Soprano and Alto voices. The score is written on two staves, both in treble clef with a key signature of one sharp (F#). The time signature is common time (C). The Soprano part begins with a half note G4, followed by a half rest, then a half note A4, and a half note B4. The Alto part begins with a half note G3, followed by a half rest, then a half note A3, and a half note B3. Both parts are marked with 'AH' syllables. The score concludes with a double bar line.

3) Male Voices

Examples 161 and 162 show two uses of male voices, 161 being a pattern using the low notes to effect, and 162 showing the application of four-way harmony:

EX. 161

EX. 161 shows a musical score for three male voices: Tenors, Baritone, and Basses. The Tenors part features a melodic line with a slur. The Baritone and Basses parts have a rhythmic pattern of eighth notes. The lyrics "DUT DUT DUH DO WAH" are written below the Basses part.

EX. 162

EX. 162 shows a musical score for three male voices: Tenors, Baritone, and Basses. The Tenors part features a melodic line with a slur. The Baritone and Basses parts have a rhythmic pattern of eighth notes. The lyrics "DUT DUT DUH DO WAH" are written below the Basses part.

Phrasing, which should be marked clearly on vocal parts, depends on the pace of the music for length, and also on the lyric. If the choir is singing the melody and lyrics, a thought in the words and a phrase in the melody should be left unbroken wherever possible. Phrase marks are written over the notes so:

A musical score showing a phrase mark (a curved line) over a melodic line.

Breath marks are written thusly:

A musical score showing a breath mark (a comma) over a melodic line.

When indicating phrases and breaths, hum the music to yourself to try to find the most musical and logical place for both, but also be ready to change either or both if the choir, when rehearsing the music, finds a better and more practical solution.

A final note on vocal writing is to call your attention to the importance of thinking **horizontally** instead of **vertically**. Voices are especially sensitive to good voice leading, which acts as a solidifier where pitch, phrasing and diction are concerned. Unexpected and illogical skips in vocal parts make intonation shaky, phrasing tentative, and words muffled.

CHAPTER XI

Some Combinations of Instruments From the Various Sections of the Orchestra To Produce Fresh and Unusual Colors

Many of the effects and colors I use are obtained by superimposing one instrument on another, or one section over another section.

An alto flute doubling an English horn is one example:

EX. 163

Musical notation for Example 163. The top staff is labeled 'ALTO FLUTE' and the bottom staff is labeled 'ENG. HORN'. Both staves are in G major (one sharp) and 4/4 time. The music consists of a melodic line in the alto flute and a corresponding line in the English horn, with dynamic markings of *mf* and *p*.

Note that though the key signatures are quite different, the transposition of each instrument makes this a unison passage.

Notice also that the alto flute is marked one dynamic degree stronger than the English horn (*mf* to *p*.) The English horn has a heavier, more robust tone, and care must be taken that it not overshadow the alto flute.

The effect achieved is quite unusual, since it combines the "honeyed" roundness of the English horn and the velvety softness of the flute.

Another application of this color would be to double an alto flute with a cup-muted trombone, creating a sound somewhat akin to that of the English horn and alto flute, but nevertheless different in detail.

EX. 164

Musical notation for Example 164. The top staff is labeled 'ALTO FLUTE' and the bottom staff is labeled 'TROMBONES'. The top staff is in G major (one sharp) and 4/4 time. The bottom staff is in E major (two sharps) and 4/4 time. The music consists of a melodic line in the alto flute and a corresponding line in the trombones, with dynamic markings of *mf* and *p*. The trombone part is marked 'CUP MUTE'.

When rehearsing such a passage, it is necessary to tell each player (the trombonist and the flute) that they have to phrase and play as one, and that in this particular instance individuality and creative interpretation would tend to destroy the effect you are after.

I have found that doubling an oboe with a trumpet in straight mute is also an intriguing sound, though much of its effectiveness depends on each instrument being aware of what the other is doing.

EX. 165

Musical notation for Example 165. The top staff is labeled 'OBOE' and the bottom staff is labeled 'TRUMPET'. Both staves are in G major (one sharp) and 4/4 time. The music consists of a melodic line in the oboe and a corresponding line in the trumpet, with dynamic markings of *mf* and *p*. The trumpet part is marked 'STR. MUTE'.

The alto flute - English horn, alto flute - trombone and oboe - trumpet blends are most effective as colors in a recording, but their impact if played "live" to a "live" audience is much reduced.

Not all mixtures fall into this category, however, and some blends are quite impressive in a concert hall.

Four "C" flutes and four cup-muted trumpets sound well either recorded or "live."

EX. 166



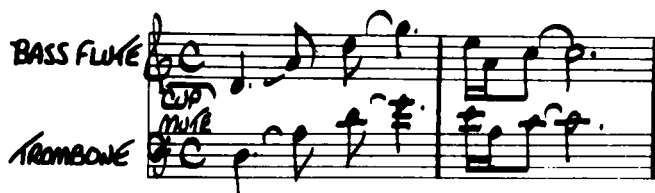
as do four alto flutes and four cup-muted trombones:

EX. 167



The sound of a bass flute and a cup-muted trombone is primarily record material and requires a delicate balance even under recording conditions.

EX. 168



Four alto flutes and four muted horns are an exquisite sound, soft, yet full and with the quality of cool, veiled mystery.

EX. 169



CHAPTER XI

Some Combinations of Instruments From the Various Sections of the Orchestra To Produce Fresh and Unusual Colors

Many of the effects and colors I use are obtained by superimposing one instrument on another, or one section over another section.

An alto flute doubling an English horn is one example:

EX. 163

Musical notation for Example 163. The top staff is labeled 'ALTO FLUTE' and the bottom staff is labeled 'ENG. HORN'. Both staves show a melody in 4/4 time. The Alto Flute part is in D major (one sharp) and the English Horn part is in E major (two sharps). The two parts play the same melody, demonstrating a unison effect through transposition.

Note that though the key signatures are quite different, the transposition of each instrument makes this a unison passage.

Notice also that the alto flute is marked one dynamic degree stronger than the English horn (*mf* to *p*.) The English horn has a heavier, more robust tone, and care must be taken that it not overshadow the alto flute.

The effect achieved is quite unusual, since it combines the "honeyed" roundness of the English horn and the velvety softness of the flute.

Another application of this color would be to double an alto flute with a cup-muted trombone, creating a sound somewhat akin to that of the English horn and alto flute, but nevertheless different in detail.

EX. 164

Musical notation for Example 164. The top staff is labeled 'ALTO FLUTE' and the bottom staff is labeled 'TROMBONES'. Both staves show a melody in 4/4 time. The Alto Flute part is in D major (one sharp) and the Trombone part is in E major (two sharps). The two parts play the same melody, demonstrating a unison effect through transposition. The Trombone part is marked 'CUP MUTE'.

When rehearsing such a passage, it is necessary to tell each player (the trombonist and the flute) that they have to phrase and play as one, and that in this particular instance individuality and creative interpretation would tend to destroy the effect you are after.

I have found that doubling an oboe with a trumpet in straight mute is also an intriguing sound, though much of its effectiveness depends on each instrument being aware of what the other is doing.

EX. 165

Musical notation for Example 165. The top staff is labeled 'OBOE' and the bottom staff is labeled 'TRUMPET'. Both staves show a melody in 4/4 time. The Oboe part is in D major (one sharp) and the Trumpet part is in E major (two sharps). The two parts play the same melody, demonstrating a unison effect through transposition. The Trumpet part is marked 'STR. MUTE'.

The alto flute - English horn, alto flute - trombone and oboe - trumpet blends are most effective as colors in a recording, but their impact if played "live" to a "live" audience is much reduced.

Not all mixtures fall into this category, however, and some blends are quite impressive in a concert hall.

Four "C" flutes and four cup-muted trumpets sound well either recorded or "live."

EX. 166



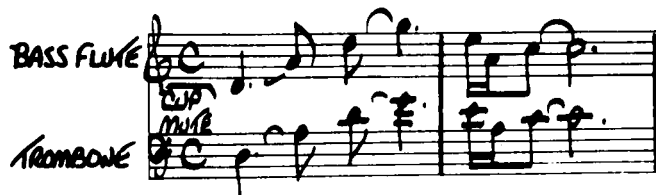
as do four alto flutes and four cup-muted trombones:

EX. 167



The sound of a bass flute and a cup-muted trombone is primarily record material and requires a delicate balance even under recording conditions.

EX. 168



Four alto flutes and four muted horns are an exquisite sound, soft, yet full and with the quality of cool, veiled mystery.

EX. 169



A more robust "earthy" color I have used many times was lifted directly from Debussy's *La Mer*. Many years ago I borrowed the score from the New York Public Library and, hidden in its pages, I discovered the structure of celli superimposed on open horns. I don't recall the balance of instruments in the score, but I have had considerable success with eight celli and four horns, two celli to each horn.

EX. 170

I used both the horns and flutes and the horns and celli in my own instrumental albums, and once with memorable results in an album I arranged and conducted for the great Oscar Peterson. These combinations were very effective as cushions for his remarkable piano sound, and we were both quite pleased with the results. This album, "Oscar Peterson and Nelson Riddle," was recorded in Hollywood in November, 1963 for Verve Records (VS 8562). Unfortunately, it is out of print, but a few copies exist in rare record shops.

Much more recently I employed these same colorations for an album I recorded in London on July 15 and 16, 1981, for the EMI Classical Division (in the U.S., Angel Records). These recordings featured the divergent, but nonetheless complementary talents of Yehudi Menuhin, one of the world's great classical violinists, and Stephane Grappelli, premier jazz fiddler whose career, like Yehudi's, has extended over half a century.

A few excerpts from the album are contained in Example 171A, B and C:

EX. 171A

B

C

Register and range, as in all of orchestration, play a vital part in writing for combinations of flutes, horns and celli. The lowest note of the alto flute, the "G" below the middle "C" of the piano, dictates one extremity when writing for horns and flutes. The other dimension would be indicated by the highest practical note that the first horn could play in a soft mute, perhaps the "C" above middle "C." In other words, when two groups of instruments are involved, and are to play identical notes (as in the case when superimposition is involved), the capabilities and ranges of both sections have to be taken into consideration.

If the combination-to-be consists of open horns and celli, it would seem as if the lowest note to be "doubled" would be "C" below middle "C" (concert), and the highest note the "C" above middle "C." Any notes higher than that are dangerous and increasingly unpleasant to the ear, the blend between the horns and celli deteriorating all the while. The celli sound grows nasal and petulant, and the horns find themselves on progressively thinner ice.

I have specified that the horns are unmuted when combined with celli for the simple reason that the celli are such a live, virile sound that they would tend to overwhelm horns that were muted. It might be interesting with horns and celli muted, and perhaps you might change types of horn mutes to achieve some sort of satisfactory effect. I have never tried this, but it might be worth the time and trouble if you have a sufficient number of each instrument to render the experiment definitive and conclusive.

If eight celli and four horns seem to be a bit beyond your wildest dreams of orchestral opulence, similar effects can be achieved using six celli and three horns:

EX. 172

By the same token, three horns and three alto flutes could be effective, as opposed to the "four and four" in Example 169.

Soft mutes seem to work best when horns and flutes are combined. Hard mutes cut through the flute sound and spoil the blend.

The horns - flutes and horns - cello combinations share one problem. As delightful as they are to the ear, they are difficult to record successfully since both groupings, especially the horns - cello, create quite an aura of overtones which tend to blur and smudge the edges of both sections. A sympathetic and sensitive recording engineer, plus whatever adjustment of dynamics is necessary, should help you achieve the desired effect.

A logical development of both the horn - cello combination and the flute - horn sound would be to write cello and horns in unison, ditto the flutes and horns. Both are highly effective but hardly unique enough to merit individual consideration as a "color" or "colors," just an outcropping of the original groupings, used in a slightly different way.

The horns - cello, horns - flutes combinations are effective both recorded and "live."

Another of the solo-line colors which has its own charm is the doubling of alto flute and bassoon, perhaps considered fresh and innovative in pop arranging, but no stranger to classical scores.

EX. 173

Handwritten musical notation for Example 173. The top staff is labeled 'ALTO FLUTE' and the bottom staff is labeled 'BASSOON'. Both staves are in 3/4 time with a key signature of one sharp (F#). The music consists of a melodic line with various dynamics markings including *p*, *mf*, and *f*. The notation includes many accidentals and slurs, suggesting a complex, expressive passage.

Some of the combinations of instruments I have described in this chapter are less useful than others, since they involve instruments not readily available in a stage band set-up, or even stage band plus strings. Certainly the alto flute and the trombone are less remote than the horns and alto flutes, and the ingredients for the muted trumpet and oboe are not too far out of sight. But it might be wise before leaving this chapter to list a few other combinations easily arrived at by using instruments close at hand.

For instance, an electric guitar doubled with a trumpet in straight mute produces an incisive, individual sound that cuts through sustained passages in other instruments, both live and recorded.

EX. 174

Handwritten musical notation for Example 174. The top staff is labeled 'ELEC. GTR' and the bottom staff is labeled 'TRUMPET'. Both staves are in 4/4 time with a key signature of one sharp (F#). The music features a rhythmic, melodic line with dynamics markings such as *mf* and *f*. The notation includes many accidentals and slurs, indicating a complex, expressive passage.

The effective range of this color extends from middle "C" on the piano to the "F" an octave and a fourth above middle "C." The lowest note is dictated by the trumpet's tubby sound, when muted, in the lower register, and the highest note by the electric guitar's decreasing ability to vibrate and project as it plays increasingly higher notes. An advantage to this combination of instruments is that both the trumpet and guitar are accustomed to playing rhythmic passages and can easily do so together.

A disadvantage is that the guitar's ability to sustain a note is considerably less than that of the trumpet, so that a certain amount of motion in the phrase is necessary to a good blend between the two instruments. NOTE: Remember that the **written** note for the guitar sounds an octave lower!

A gentle sound achieved by mixing two clarinets and two cup-muted trumpets was suggested to me in 1939 by my first arranging teacher, Bill Finegan of Sauter - Finegan, Glenn Miller and Tommy Dorsey fame. I was attempting to write some arrangements for a band that had a summer job in one of the dance halls which in those days dotted the South Jersey coastline, and nowhere in the orchestra was there a complete section! If I remember correctly Richard Love, the bandleader, had three saxes doubling clarinet, two trumpets and one trombone, plus bass, drums and piano. I don't recall the actual example Bill sent me in my hour of need, but it must have looked something like this:

EX. 175

Notice the interlocking formation of the two elements, an essential if a good blend is to be achieved. Use this color if you find an opportunity. It's not novel, or arresting or innovative. But it certainly came in handy in the Summer of '39.

A blend I have always liked is a combination of four trombones and a baritone saxophone. It has a richness and appeal that provide welcome relief from five saxes and four trombones playing as a section.

Here is an example from an album of mine entitled "Music for Wives and Lovers" (Solid State SS 18013). It's also out of print now, but is occasionally available at rare record shops.

EX. 176

In the early days of stereo, "ping-ponging," or jumping back and forth among the sections of the orchestra was a much-repeated exercise.

An early album of mine, "Sea of Dreams" (Capitol ST 915), is a gentle example of this style, except that the orchestra is composed of strings, plus rhythm section. My version of "ping-pong" was to divide the violins, violas and cello each into sections, one muted (*sordini*) and one open (*senza*).

Here is an example from that album:

EX. 177

Two basic restrictions prevail: you need a large string orchestra to make this work properly, and you must select songs that have repetitive or similar phrases in the melody so that you state the phrase with open strings and echo the same phrase with muted strings.

This last device has no usage in a stage band, certainly, but could be a valuable addition to the "arranger's tool box" I mentioned many chapters ago.

Though the title of this chapter includes the phrase "Fresh and Unusual Colors," Rimsky-Korsakov, Ravel and certainly Richard Strauss and Berlioz would favor me with gales of sarcastic mirth were they to read Chapter XI, for in truth all the colors I mention and many, many more are to be found between pages of classical scores.

Nevertheless, as I stated at the beginning of this book, it seems to me quite impossible to discuss arranging without at least touching on orchestration, and I am simply passing on to you some information I have found invaluable. No text book is an end in itself, and many of them contain a list of books from which additional material can be obtained.

This book contains references to books on electronics and synthesizers, a book on the harp, a book on percussion by Emil Richards and a book on vocal writing by Jimmy Joyce.

Actually, there are several books on orchestration (Rimsky-Korsakov and Cecil Forsythe, to name only two), plus hundreds of miniature scores of orchestral and vocal works to be examined by the persistent student.

My suggestion would be to go to the public library, college library or music store and select some miniature scores of your favorite composers, as I did years ago with Debussy's **La Mer**. See how they achieved some of the sounds which so attracted you when you heard them performed live or on record. If possible, reduce the scores to a **concert** score so that you can study the ranges and register of the various sections and solo instruments.

One last anecdote from my "teens": at about the same time in life I studied the score of **La Mer**, I also borrowed the score of Stravinsky's **Petrouchka**. My mother had given me the recording for my birthday (I forget **which** birthday) and, as I hope you will be inspired to do, I was most interested in finding out **how** Stravinsky had achieved some of the ear-arresting sounds and what in those times were considered very novel effects.

I opened the score, started the recording, finally was able to find the same passages in both score and record, and felt completely frustrated when, upon playing a few bars of the score on the piano I was totally unable to trace the magic I had heard while listening to the record!

It was then that I knew, beyond any doubt, that I was in the presence of true genius.

CHAPTER XII

Combining the Various Elements in the Orchestra To Form an Arrangement

My approach to writing an arrangement is probably only one of many possible ways, but it has worked for me and I would like to pass it on to you.

First of all, it is quite advantageous to play the song several times on the piano so that you can familiarize yourself with the melody and harmonic changes. Only by feeling totally at home with the music can you start to think of counter-melodies and lines to use in your arrangement. If you are not able to play the piano well enough to play the song, perhaps someone (the composer, for instance, or a piano-playing friend) can make you a cassette that you can study.

Having learned the song and digested the lyric, you are now free to compose an introduction, either totally original in content, or built on a phrase of the song:

EX. 178

Handwritten musical score for EX. 178. The score is written on five staves. The first staff is labeled "Vlns I-II-Vla" and "3 FLUTE". The second staff is labeled "3 HORNS". The third staff is labeled "CELLI + BASS". The fourth and fifth staves are labeled "START OF VOCAL OR INSTRUMENTAL". The music is in 4/4 time and includes various musical notations such as notes, rests, and dynamic markings.

If the arrangement is to be for a singer, you must get the key from the singer, and I mean the **actual key** he or she is going to use in singing this particular song. Learning the top and bottom notes of a singer's range is not nearly enough, and can often be quite deceptive. A song which lingers in the top register should be dropped a tone or two in order not to tire the singer, and a song which tends to stay in the lower register should be raised a bit, if possible, to allow for better intonation (low notes tend to curl upward when sung), stronger projection and clearer diction.

Some singers do not like to have any suggestion of the melody in the orchestration, and **that involves the introduction!** They prefer to state the melody vocally, and feel any orchestral hint of the melody preceding that vocal statement tends to diminish the impact of hearing the melody for the first time as they sing it. Some singers often feel that to support them with an orchestration in which the melody is present gives the listener the idea that the soloist needs that support in order to sing the song, and they consider this a musical insult, casting doubt on their ability to carry a tune on their own. I agree, and think a tasteful counter melody is a great deal more appropriate and lots more fun to write!

Orchestrations for musical shows often contain the melody to help and guide the singer who is on stage performing at quite a distance from the orchestra. Under these circumstances it is not only permissible to have the melody in the orchestration, but customary and often useful.

In the case of the instrumental arrangement, the arranger has to decide what section or sections of the orchestra are to be featured (or what soloists), and pick a key most flattering and facile for the instruments involved.

The next step after writing the introduction is to sketch in the vocal line, if it's a vocal arrangement; otherwise the solo instrumental line or top line of sections to be featured (trumpets, trombones, saxes, strings, et cetera):

EX. 179



I would like to here state my preference for composing the introduction as the first step to writing an arrangement. The intro probably contains more original material than any other part of the arrangement, and because of this is often a difficult point at which to start. Nevertheless I feel that if one is to tell a sort of musical story, which an arrangement most certainly is, one should start at the beginning, as with a book. The arranger can then arrive at fills, interludes and even endings based on material from the introduction, and thus make the arrangement sound like a complete thought, with its parts interrelated. To shy away from the intro because of the difficulty of being able to jot down a suitable one immediately, and to just go on about the less original task of filling in a vocal or instrumental background resembles the process of giving birth to a sort of headless horse, everything backward from the beginning.

Like the blueprint for a building, the planning of an arrangement is the most important step to be taken and requires your best thinking and effort. **Do not rush** this particular step, and try to find the time to make yourself a sketch, which can be revised and reworked if necessary without tearing up several sheets of fully orchestrated score paper. It's a lot less frustrating to make a plan **before** proceeding.

Having written the introduction, put in the vocal and instrumental lines, and having made a comprehensive sketch on separate paper of how the arrangement is to proceed, you are now free to add the parts for the individual instruments. It is also a good idea and not yet too late to check your sketch and make sure you have included some attractive counter-melodies. They are so pretty when played against the melody of the song, and also serve to knit the arrangement together and make it an entity by itself. The Gene Kelly "Singing in the Rain" orchestration immediately comes to mind as a perfect example of an arrangement which is a **work of art in itself**, and does not depend entirely on the song for its "life."

I have always filled in the chords and bass line last. Their content reflects the harmonic and chordal progressions used in the arrangement.

In order of importance, however, the bass line and chords are second only to the melody, and I see no reason why they couldn't be added in that order, leaving the individual instrumental parts to be put in last. I always felt constricted by having to work to a set line of bass notes and chords, which is why I always added them last.

Perhaps this is only my own personal reaction. Certainly the reversal of this order has logic to commend it. Try it both ways and see which best serves your needs.

As a final touch, phrasing and dynamics should be added. Please don't neglect either one. They form the last graphic line between the arranger and the orchestra that he expects to reflect his musical intentions, and as such, both dynamics and phrasing are very important.

While orchestrating your sketch, you should have always in mind the weight of the various instruments or sections you are dealing with, and now in adding the dynamic markings you can check your dreams against reality. If you see that you have placed cup-muted trombones against a wall of saxes, change it so that the trombones won't be lost, perhaps by marking the trombones "open," or re-voicing the saxes so that they are not in the same register as the trombones, and then, of course, having the saxes play **pp** and the trombones **mf** (or louder). But no amount of juggling of dynamic markings will create a good balance unless that balance is built into the arrangement to begin with, in which case the dynamic markings will only enhance or perfect that balance which, at least potentially, already existed.

Strings, buried in open brass, are another helpless situation, especially if the string section is small. This problem can sometimes be alleviated by having the strings play an octave or two higher, where they won't be covered by the brass and can be heard more clearly.

Actually, these last two rather unlikely situations cannot possibly occur in your arrangement if you have done a sensible sketch. Such predicaments are the result of no planning, and that is not what Chapter XII is all about.

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As a final touch, phrasing and dynamics should be added. Please don't neglect either one. They form the last graphic line between the arranger and the orchestra that he expects to reflect his musical intentions, and as such, both dynamics and phrasing are very important.

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Actually, these last two rather unlikely situations cannot possibly occur in your arrangement if you have done a sensible sketch. Such predicaments are the result of no planning, and that is not what Chapter XII is all about.

Phrasing and phrase markings can be meaningful when added to the arrangement simply by humming or singing the various lines in the orchestration, and marking certain groups of notes to be played, as it were, in one breath, and indicating where pauses would least affect the lines you have written:

EX. 180



Whether it be saxes or brass who, like all mortals, have to pause and breathe before proceeding, or stringed instruments, whose bows have a final quarter-inch left before starting the next stroke, all instruments have to pause between phrases.

How much better it is for the arranger to plan all this out instead of leaving phrasing and dynamics to the individual musician, who will plan his shading and breath marks for his own comfort rather than toward the much loftier goal of making the arrangement sound its very best.

Just to inject an unsettling note into all this discussion of dynamic markings, I will state that some of the most effective crescendos I ever incorporated into my arrangements were not achieved by writing dynamic markings or exhorting an orchestra to observe my flailing arm-motions. They were accomplished by gradually adding orchestral weight until the desired peak was reached!

EX. 181

Example 181 shows a musical score for a crescendo. The score includes staves for Violins (VLS), Flutes (FLTS), Clarinets (CLAR), and Cello (CELL). The score is marked with a 'CRESCENDO' and includes dynamic markings such as 'p', 'f', and 'mf'. Handwritten notes indicate 'ADD FLUTES' and 'ADD CLARINETS'. The score ends with a 'CYMBAL SHIMMER' marking.

The same can be said for diminuendos, in which case the orchestra is progressively thinned out until a ppp is accomplished:

EX. 182

Example 182 shows a musical score for a diminuendo. The score includes staves for Violins (VLS), Flutes (FLTS), Clarinets (CLAR), and Cello (CELL). The score is marked with a 'DIMINUENDO' and includes dynamic markings such as 'f', 'mf', and 'p'. Handwritten notes indicate 'VLS - FLTS CLAR.' and 'VLS ONLY'. The score ends with a 'p' marking.

True dynamics in an orchestra are achieved beautifully and naturally by a combination of orchestral textures and lines. When "peaks and valleys" occur under these conditions, they sound so logical and effortless as to appear perfectly natural, which by the way, they are.

To inject a note of commercialism into a chapter I have devoted largely to purist theory, may I say in conclusion that nothing makes an orchestration as attractive as the contrasts achieved by close attention to sensible dynamics, and an arrangement sold is a thing of true and lasting satisfaction, both to the purchaser and the arranger!

CHAPTER XIII

Music for Films

The distance from arranger to film composer may seem tremendous, and certainly there are some depths in music to be explored and some crafts mastered before the metamorphosis can be accomplished. My inclusion of a chapter of this sort in a book dedicated to arranging reflects my own conviction that this gap can be bridged.

I will give you my own approach to film scoring, which has won me five "Oscar" nominations and one "Oscar."

The nominations are for the following pictures:

Li'l Abner - Paramount - 1958

Can-Can - Twentieth Century-Fox - 1960

Robin and the Seven Hoods - Warner Bros. - 1963

Paint Your Wagon - Paramount - 1969

The Great Gatsby - Paramount - 1974

The "Oscar" was for **The Great Gatsby**.

"Oscars" voted by the Music Branch of the Academy of Motion Picture Arts and Sciences fall into three categories: Best Song, Best Original Score, and Best Adaptation (arranging) of someone else's material.

You will notice that all my nominated films fall in the last named category, adaptation, so that, in reality, I was functioning as an arranger/conductor in these films. The underscoring, or background music, which bridges the songs, was also based thematically on those songs, in observance of the contract for my services which covered this point.

"Gatsby" is the one exception in the list in that it wasn't a film adaptation of a musical show, with a list of songs which comprised the score. Rather it is the dramatic presentation of a novel, and the songs which I was instructed to use, together with the Theoni V. Aldredge period costumes and a liberal sprinkling of vintage cars, served to firmly implant the fact that the story was taking place in the summer of 1926.

Included in the film were some forty minutes of original scoring, based on themes I had composed.

Certainly a film score is a challenge most inspiring for the arranger. Instead of a four-bar intro, ending with a diminuendo and continuing under to support a vocalist, the arranger has far greater freedom of expression, even if he is working with someone else's themes. I remember a recent assignment of mine, a picture called **Rough Cut**, with Burt Reynolds, Lesley-Anne Down and David Niven. David Merrick, the producer, was insistent that the score consist primarily of Duke Ellington's melodies, and it was up to me to arrange these tunes to fit the many situations occurring in the picture. "Sophisticated Lady" made for an elegant main title, whereas "Caravan" supplied the material for the chase sequences toward the end of the picture, with many other Ellington gems sprinkled inbetween. The assignment was a joy to accomplish, made even more attractive by the photography, with its glimpses of the rich interiors of London mansions, and the colorful shots of Belgium and Holland.

The arranger/composer for films needs to become acquainted with a few new tools in order to move comfortably in this medium, which differs considerably from the more or less straightforward approach toward writing for recordings.

Having been assigned the scoring of a film, the first person the arranger/composer will meet up with will be the producer, the director, or both. These gentlemen will call the arranger/composer in for some discussions of what they expect to hear in the score, and due to exigencies of time, which usually are alarmingly present, they will want to show you their "baby," the film. It is best to remember that, in all probability, both the producer and the director have slept, awakened, shaved, eaten all their meals, and have driven to the office thinking of very little else **but** this creation of theirs for several overcharged months. So it would be wise, as when a proud father flips a baby picture from his wallet, to try to register enthusiasm while seeing the film, lest they think of you as "cold," unfeeling, and quite atypical of the audience they are striving to reach. This enthusiasm can be manifested by well-timed "ahh's," "ooh's," forced laughter and an occasional meaningful "grunt" of appreciation for all that is being dangled before your eyes.

At the second running of the film, or third, or occasionally (in a situation of near desperation) the first, there will be an attempt to "spot" the movie, the process of deciding which scenes of the film are to be scored and which are to be left alone to survive (it is hoped) on their own merit.

The arranger/composer will be expected to contribute some intelligent input in this matter, and if he can assimilate the movie quickly enough and is able to speak in an authoritative manner, can usually make some of his ideas stick. It must be remembered, however, that spotting ideas arrived at with lightning-like genius may lose their cleverness upon further consideration, to the point where they prove totally impractical. By now these gems of insight may have found their way into the spotting notes (a secretary is usually at each running) and from that vantage point loom as a fearsome hurdle to justify musically. Nevertheless, the musician, as the architect of this damnable blueprint, is committed to making it come to life. He can do that, or he can back out of the situation as gracefully as possible under the circumstances. A grim choice!

It is occasionally better to let the producer or director do the leading for a while. This method affords the arranger/composer valuable time to think of what he is going to say and perhaps whip his ideas into a workable plan he can live with.

He will also find out at the session that no shortage of ideas exists in the minds of his two superiors. They, as stated before, have "lived" with this project for a considerable time and, based on some malevolent quirk of human nature, know their jobs inside and out, **plus all there is to know about music!**

Another personage, second only in importance to the producer and director, is usually present at spotting sessions. He is the music editor, a man with whom the musician will be spending lots of time, and whose technical knowledge and expertise will be essential to the success of the score.

He may be the one taking down the information on where the music does and does not belong. He can also be relied on to make certain discreet suggestions concerning the spotting of the movie and, if he is at all sensitive or artistic, should be eminently qualified to do so. As a journeyman technician, he goes from project to project and has probably seen more film than the sum total of all the movies the producer, the director, and the arranger/composer have been exposed to.

The music editor will type up a sheet of paper for every scene to be scored. The timing notes, as they are called, include a running account of action and dialogue, plus a column of timing in seconds and tenths of seconds, indicating exactly where all these things occur.

EX. 183**"MICKEY SPILLANE'S MIKE HAMMER"****The Conspirators****M-902****Play On - Myst. - Thematic**

:00 Music in from Comm. on cut to ext. of heavy's mansion - day.

:01 Mike's car appears on right screen.

:05.4 Cut to Mike driving.

:08.4 Cut to ext. of road from Mike's P.O.V. (side view) or car keeps going.

:13.6 Cut to side view of Mike driving.

:15.8 Cut to Mike's car driving.

:20.3 Mike's car rides O.S. - we're in front of gate now.

:23.6 Cut to Mike's car riding toward camera.

:31.4 Car comes to a halt.

34.5 Door starts to open.

:36 Mike exits car.

:39.4 He closes the door and walks around front of car and keeps going toward gate.

:51.6 Reaches front of gate - puts hands on bars.

:52.4 Cut to ext. mansion.

:55.1 Cut to Mike at gate.

:58.4 He starts to walk slowly.

1:02.9 Stops and looks at house through the bushes.

1:05.5 Starts to walk again.

1:06.5 Cut to M.S. of Mike walking toward camera along bushes.

1:19 Reaches a wall and starts to jump up.

1:19.4 Cut to Mike scaling wall.

1:25.6 He jumps up to the ground on other side of wall.

1:27.8 We see Mike through bushes now.

1:29.5 Cut to M.L.S. of heavies walking along path toward camera.

1:31.5 Cut to Mike as he runs along bushes.

1:32.5 He runs into heavies as one yells "Hey, you - where do you think you're going? You're on private property."

1:35.4 Mike, "I saw the sign - I was just going up to the house."

1:37.4 Pause - He punches heavy in stomach followed by several punches.

1:39.5 He lands a final punch.

1:41.8 He lifts another heavy up by hair and threatens to punch him.

1:43.2 He pushes him away disdainfully and keeps walking.

1:45.1 Music out on cut to Garden patio - lots of noise and dial. As heavies are in meeting.

As you can see, the mood of this cue is "misterioso." Mike, a private detective, has decided to confront the "heavies" in their headquarters, a mansion in upper New York City. He wants to find out who is responsible for a series of murders which occurred as a side-effect of his efforts to discover who was responsible for the brutal beating and death of his close friend Joey.

I used the music primarily to establish and maintain the mood of the scene. The closest I came to "catching" anything in the first several bars was to tacet the rhythm drums when Mike's car came to a stop (31.4 seconds). The next catch came as the result of an almost casual accent at 55.1 seconds, where the camera finds Mike at the gate to the mansion. I observed nothing musically other than maintaining a feeling of dark tension until 1:29.5, when the camera reveals a pair of tough-looking bimbos who are guarding the grounds surrounding the mansion. The music crescendos into the brief confrontation between Mike and the guards, catches four pieces of action (1:37.4, 1:39.5, 1:41.8, 1:43.2) and subsides in time to slide under the dialogue of the heavies having a top-level discussion.

A few lines might be helpful regarding the catching of cues with a click. Once you have selected the proper tempo for the music and put in the timings at each downbeat, the cues you wish to catch are relatively easy to chart. Take the cue sheet produced by the music editor, run the film while following the cue sheet, and make the timings you think will benefit by extra support musically. Do not try to catch too much. Catching everything spoils the flow of the music and tends to sound too "Mickey Mouse" — a term borrowed from the Disney Studios, where cartoons are scored. At Disney, catching everything is a must and adds to the charm of the various characters in the famous Disney cartoons. Away from Disney, this technique tends to be distracting, annoying, and "dated."

Example 184 shows where a hypothetical timing of 02.3 would fall using a variety of clicks.

EX. 184

The example consists of four musical staves, each representing a different click rate. Each staff has a treble and bass clef, a key signature of one flat (B-flat), and a common time signature (C). The staves are labeled with their respective click rates and the duration of one bar in seconds.

- Top Left Staff:** Labeled "12 FR. CLICK" with "(1 1/4 BAR = 2 SECONDS)". It shows a 02.3 timing falling between the first and second downbeats.
- Top Right Staff:** Labeled "18 FR. CLICK" with "(1 1/4 BAR = 3 SECONDS)". It shows a 02.3 timing falling between the first and second downbeats.
- Bottom Left Staff:** Labeled "16 FR. CLICK" with "(1 1/4 BAR = 02 1/2 SECONDS)". It shows a 02.3 timing falling between the first and second downbeats.
- Bottom Right Staff:** Labeled "21 FR. CLICK" with "(1 1/4 BAR = 03 1/2 SECONDS)". It shows a 02.3 timing falling between the first and second downbeats.

In all four staves, the 02.3 timing is indicated by a bracketed box above the staff, and the downbeats are marked with a vertical line and a small 'x' on the staff.

Do not let tenths of seconds intimidate you. It is simple to translate the tenths into thirds, three tenths being $1/3$, six tenths $2/3$, nine tenths moving over into the next second. The inbetween tenths are as easy to deal with. Two tenths = $1/3$, four tenths, five tenths = $1/2$, and eight tenths = $2/3$. The eye and ear, while closely coordinated, do not detect any variance under, say, $2/10$ of a second. So that is a sort of thin margin for error to the advantage of the arranger/composer.

Before the invention of the click track, cues had to be caught by conducting the music at a tempo to conform with the second hand in a large clock-face mounted on the conductor's podium, and visible to him just above or to the left or right of his music. An experienced film conductor could create minor miracles of timing in a scoring session, aided and abetted by "punches," circles cut out of the film, which warned of an impending "streamer," a diagonal slash or cut on the surface of the film to mark the exact position of a piece of action or a change of mood in the picture.

Many years into the history of music for films, it was discovered that a circle or punch cut out of a piece of film made a distinct "clicking" sound as it passed through the machinery. This click was transmitted to the ear of the conductor via an earphone.

A complicated table of timings was constructed as a development of this discovery which has proved unusually helpful to the composer, the conductor, and the financial backers of every film project for which clicks are utilized, since "clicking" diminishes or occasionally eliminates the need for additional "takes" due to errors of timing.

A movie producer is one of my neighbors in the office building where I have my studio. He has told me of the increasing difficulty of obtaining money to make a film, and how costly it all is. The reason I include this mention of my friend's financial woes is to point up the fact that music scoring occurs for most movies at the very end of a long and painful period of borrowing money at soaring interest rates, causing the mood of management to be very brittle and volatile. As soon as the last work is done on the film, it can be processed and released, and with the **first** ticket sold to the **first** customer the financial tension is gradually eased. The more quickly and efficiently the composer can complete his task, the more eligible he becomes for future assignments, perhaps with the same company.

A music editor named Carroll Knudson has compiled a huge book on the subject of clicks which is a veritable "Bible" to many composers. I use a couple of tables extracted from this book, and they help me a great deal. The title of the book is **Project Tempo**, published by the author, and is available from Valley Music Reproduction, 12441 Riverside Drive, North Hollywood, California 91607.

Earlier in this chapter, I explained the process of punching holes in the film to achieve the "clicking" sound. The speed of the click is determined by the distance between punches; the farther apart they are, the slower the tempo. The closer, of course, the faster. There are 24 frames, or mini-pictures, in one foot of film. If the music editor punches every twenty-fourth frame, the resulting tempo is called a 24-frame click. It so happens that this tempo is one beat (or one click) per second, resulting in a $\frac{4}{4}$ bar of four seconds duration. The same tempo in $\frac{3}{4}$ time would result in a three second bar, and so on. All of the various click tempos do not come out so neatly, so a bit of rudimentary math is required by the composer who uses the clicks. A 12-frame click is accomplished by punching a hole every twelve frames, and results in a tempo exactly twice as fast as a 24-frame click. For this case, four clicks, or a $\frac{4}{4}$ bar in 12-frame tempo is of two seconds' duration; the $\frac{3}{4}$ bar is one and a half seconds, etc.

The 16-frame click to which I conducted cue M-902 produced a $\frac{4}{4}$ bar which is $2\frac{2}{3}$ seconds of length. Before composing the music, I map out the total timing of the cue from Bar 1 to the end, simply by adding the $2\frac{2}{3}$ second increment as many times as I will need to complete 1:45, which is the overall length of the piece of music I am to compose. I carefully go over the timing on the cue sheet to see which I will catch or point up, and which I will ignore in favor of playing for mood only. It is best not to catch too much. It interrupts the flow of the music and makes a mood difficult to establish and maintain.

Henry Mancini was able to devise a novel approach to scoring. In the T.V. series "Peter Gunn" he played a sort of sophisticated jazz under action and dialogue to the exclusion of nearly all other considerations, catching nothing and relying solely on establishing and maintaining the mood of the scene, doing so most effectively.

One of the two tables of figures I extracted from the Carroll Knudson book gives various metronomic tempos and their equivalents in click tracks. The other table consists of frame tempos and their speed in seconds and fractions of seconds, including $\frac{4}{4}$ bars, $\frac{3}{4}$ bars, and $\frac{3}{8}$ bars. Given these basics, it takes only a bit of figuring to calculate $\frac{5}{4}$ bars, $\frac{6}{4}$ bars, $\frac{7}{4}$ bars, or others you may decide to use.

Once you become facile with these tables, they are of immense help, especially in the scoring of T.V. series' or movies of the week where, time and money being in short supply, speed of execution is essential.

The first music you write should take the form of a sketch:

EX. 185

Handwritten musical score for EX. 185, featuring a sketch of a piece. The score is written on four systems of staves, each with a treble and bass staff. The notation includes various musical symbols, including notes, rests, and dynamic markings.

System 1: Labeled "16 FR." and "M-902". The first staff has a tempo marking "ALGO FL'S". The second staff has a tempo marking "FELDER BASS". The system includes time signatures $02\frac{2}{3}$, $05\frac{1}{3}$, 08 , and $10\frac{2}{3}$.

System 2: The system includes time signatures $10\frac{2}{3}$, $13\frac{1}{3}$, 16 , $19\frac{1}{3}$, and $21\frac{1}{3}$.

System 3: The system includes time signatures $21\frac{1}{3}$, 24 , $26\frac{2}{3}$, $29\frac{1}{3}$, and 32 . The first staff has a tempo marking "S6S".

System 4: The system includes time signatures 32 , $34\frac{2}{3}$, $37\frac{1}{3}$, 40 , and $42\frac{2}{3}$.

The notation includes various musical symbols, including notes, rests, and dynamic markings. The score is written in a sketchy, handwritten style.

Handwritten musical score on five systems, featuring various instruments and time signatures.

System 1:

- Time signature: $42\frac{2}{3}$
- Instruments: HUS-MITED, FENDER BASS, TRAYS STR. MOVE
- Measure numbers: 45, 48, 50, 53

System 2:

- Time signature: $53\frac{1}{3}$
- Instruments: ORGANS, VIBES, F. BASS
- Measure numbers: 56, 59, 1.01, 1.04

System 3:

- Time signature: 1.04
- Instruments: ALOR'S
- Measure numbers: 1.06, 1.09, 1.12, 1.14

System 4:

- Time signature: 1.14
- Measure numbers: 1.17, 1.20, 1.22, 1.25

The score includes various musical notations such as notes, rests, and dynamic markings (e.g., mf , sf).

Handwritten musical score on two systems of staves. The first system consists of five measures with time signatures $1.25 \frac{2}{3}$, 1.28 , $1.29.5$, $1.30 \frac{2}{3}$, and $1.33 \frac{1}{3}$. The second system also consists of five measures with time signatures 1.36 , $1.37.4$, $1.38 \frac{2}{3}$, $1.41 \frac{1}{3}$, and $1.45.1$. Annotations include "mr. HALL" above the first measure of the second system, "STGS" below the second measure, "ELEG. GTR." above the third measure, "ALTO FLUTE" above the fourth measure, and "mr. HALL" above the fifth measure. The notation includes various note values, rests, and dynamic markings.

You will notice the timings at the downbeat of each bar, plus the lines of notes filling each bar. As you proceed to sketch out the music, some orchestral colors may occur to you. Make notes of these ideas on the music as you go along. They will save you considerable time when you orchestrate the sketch, and also may lead your ear in the direction of some effective lines for the orchestra to play. In short, music may suggest colors and colors suggest music.

Example 186 shows one sketch orchestrated:

EX. 186

Handwritten musical score for Example 186, showing a sketch orchestrated for various instruments. The score is written on 18 staves, each with a clef and a key signature of one flat (B-flat). The instruments listed on the left are:

- ALTO FLT. I II
- ALTO FLT. III IV
- TRAP 1
- TRAP 2
- TRAP 3
- 3 FR. HORN
- TRBN 1
- TRBN 2
- TRBN 3
- DRUMS
- PERC (VIBES)
- KEYBOARD (ORGAN)
- VIOLINS
- VIOLA
- CELLO
- GUITAR
- FENDER BASS

The score is divided into four measures, numbered 1, 2, 3, and 4 at the bottom. The notation includes various musical symbols such as notes, rests, and dynamic markings. The Fender Bass part is particularly detailed, showing a complex rhythmic pattern. The Guitar part includes a 'Fill' and 'Dm' marking. The Percussion part includes a 'VIBES' marking. The Keyboard part includes an 'ORGAN' marking. The Violins and Viola parts are marked with 'VIBES' and 'ORGAN' respectively. The Traps and Horns parts are marked with 'VIBES' and 'ORGAN' respectively. The Trumpets and Trombones parts are marked with 'VIBES' and 'ORGAN' respectively. The Drums part is marked with 'VIBES' and 'ORGAN' respectively. The Fender Bass part is marked with 'VIBES' and 'ORGAN' respectively.

Handwritten musical score for page 153. The score is written on 18 staves, each labeled with an instrument or vocal part. The notation includes notes, rests, and dynamic markings. The key signature has one flat (B-flat), and the time signature is 4/4. The score is divided into four measures, numbered 5, 6, 7, and 8 at the bottom.

ALTO FLT I. II.
ALTO FLT III. IV.
TRPT 1
TRPT 2
TRPT 3
3 Fr. Horns
TRBN 1
TRBN 2
TRBN 3
DRUMS
PERC
KEYBOARD
VIOLINS
VIOLA
CELLO
GUITAR
FEEDER Bass

Measure 5: ALTO FLT I. II. and ALTO FLT III. IV. play a melodic line. TRPT 1, 2, and 3 play a sustained note. 3 Fr. Horns play a sustained note. TRBN 1, 2, and 3 play a sustained note. DRUMS play a rhythmic pattern. PERC plays a sustained note. KEYBOARD plays a sustained note. VIOLINS play a sustained note. VIOLA plays a sustained note. CELLO plays a sustained note. GUITAR plays a sustained note. FEEDER Bass plays a melodic line.

Measure 6: ALTO FLT I. II. and ALTO FLT III. IV. play a melodic line. TRPT 1, 2, and 3 play a sustained note. 3 Fr. Horns play a sustained note. TRBN 1, 2, and 3 play a sustained note. DRUMS play a rhythmic pattern. PERC plays a sustained note. KEYBOARD plays a sustained note. VIOLINS play a sustained note. VIOLA plays a sustained note. CELLO plays a sustained note. GUITAR plays a sustained note. FEEDER Bass plays a melodic line.

Measure 7: ALTO FLT I. II. and ALTO FLT III. IV. play a melodic line. TRPT 1, 2, and 3 play a sustained note. 3 Fr. Horns play a sustained note. TRBN 1, 2, and 3 play a sustained note. DRUMS play a rhythmic pattern. PERC plays a sustained note. KEYBOARD plays a sustained note. VIOLINS play a sustained note. VIOLA plays a sustained note. CELLO plays a sustained note. GUITAR plays a sustained note. FEEDER Bass plays a melodic line.

Measure 8: ALTO FLT I. II. and ALTO FLT III. IV. play a melodic line. TRPT 1, 2, and 3 play a sustained note. 3 Fr. Horns play a sustained note. TRBN 1, 2, and 3 play a sustained note. DRUMS play a rhythmic pattern. PERC plays a sustained note. KEYBOARD plays a sustained note. VIOLINS play a sustained note. VIOLA plays a sustained note. CELLO plays a sustained note. GUITAR plays a sustained note. FEEDER Bass plays a melodic line.

Measure 9: ALTO FLT I. II. and ALTO FLT III. IV. play a melodic line. TRPT 1, 2, and 3 play a sustained note. 3 Fr. Horns play a sustained note. TRBN 1, 2, and 3 play a sustained note. DRUMS play a rhythmic pattern. PERC plays a sustained note. KEYBOARD plays a sustained note. VIOLINS play a sustained note. VIOLA plays a sustained note. CELLO plays a sustained note. GUITAR plays a sustained note. FEEDER Bass plays a melodic line.

Handwritten musical score for a 15-piece ensemble, measures 10-13. The score is written on a single system with 15 staves. The instruments are listed on the left: ALTO FLT. I II, ALTO FLT. III IV, TRAP 1, TRAP 2, TRAP 3, 3 FR. HORN, TRBN 1, TRBN 2, TRBN 3, Drums, Perc, KEYBOARD, VIOLINS, VIOLA, CELLO, GUITAR, and FENDER BASS. The key signature is one flat (Bb). The time signature is 4/4. The score includes various musical notations such as notes, rests, beams, and slurs. Measures 10, 11, and 12 are marked with circled numbers at the bottom. Measure 13 is also marked with a circled number. The FENDER BASS part is written in a simplified, rhythmic style. The VIOLINS, VIOLA, and CELLO parts are written in a more complex, melodic style. The TRAP and TRBN parts are mostly rests. The ALTO FLT. parts have some notes and slurs. The Drums and Perc parts have some notes and rests. The KEYBOARD part is mostly rests. The GUITAR part is mostly rests.

ALTO FLT. I II

ALTO FLT. III IV

TRAP 1

TRAP 2

TRAP 3

3 FR. HORN

TRBN 1

TRBN 2

TRBN 3

Drums

Perc

KEYBOARD

VIOLINS

VIOLA

CELLO

GUITAR

FENDER BASS

⑩

⑪

⑫

Handwritten musical score for page 155, measures 13-16. The score is written on 18 staves, organized into three systems of six staves each. The instruments are listed on the left of each staff.

System 1 (Measures 13-16):

- ALTO FL. I II:** Treble clef, key of D major. Measure 13: quarter rest. Measure 14: eighth notes D4, E4, F#4, G4, A4, B4. Measure 15: half note D5. Measure 16: half note D5.
- ALTO FL. III IV:** Treble clef, key of D major. Measure 13: quarter rest. Measure 14: eighth notes D4, E4, F#4, G4, A4, B4. Measure 15: half note D5. Measure 16: half note D5.
- TRPT 1:** Treble clef, key of D major. Measure 13: whole rest. Measure 14: whole rest. Measure 15: whole rest. Measure 16: whole rest.
- TRPT 2:** Treble clef, key of D major. Measure 13: whole rest. Measure 14: whole rest. Measure 15: whole rest. Measure 16: whole rest.
- TRPT 3:** Treble clef, key of D major. Measure 13: whole rest. Measure 14: whole rest. Measure 15: whole rest. Measure 16: whole rest.
- 3 FR. Horns:** Treble clef, key of D major. Measure 13: whole rest. Measure 14: whole rest. Measure 15: whole rest. Measure 16: whole rest.

System 2 (Measures 13-16):

- TRBN 1:** Bass clef, key of D major. Measure 13: whole rest. Measure 14: whole rest. Measure 15: whole rest. Measure 16: whole rest.
- TRBN 2:** Bass clef, key of D major. Measure 13: whole rest. Measure 14: whole rest. Measure 15: whole rest. Measure 16: whole rest.
- TRBN 3:** Bass clef, key of D major. Measure 13: whole rest. Measure 14: whole rest. Measure 15: whole rest. Measure 16: whole rest.
- Drums:** Bass clef. Measure 13: eighth notes D2, C2, B1, A1. Measure 14: eighth notes G1, F1, E1, D1. Measure 15: eighth notes C1, B0, A0, G0. Measure 16: eighth notes F0, E0, D0, C0.
- Perc:** Treble clef. Measure 13: whole rest. Measure 14: whole rest. Measure 15: whole rest. Measure 16: whole rest.
- KEYBOARD:** Treble and Bass clefs. Measure 13: whole rest. Measure 14: whole rest. Measure 15: whole rest. Measure 16: whole rest.

System 3 (Measures 13-16):

- VIOLINS:** Treble clef, key of D major. Measure 13: half note D4. Measure 14: half note E4. Measure 15: half note F#4. Measure 16: half note G4.
- VIOLA:** Treble clef, key of D major. Measure 13: half note D4. Measure 14: half note E4. Measure 15: half note F#4. Measure 16: half note G4.
- CELLO:** Bass clef, key of D major. Measure 13: half note D3. Measure 14: half note E3. Measure 15: half note F#3. Measure 16: half note G3.
- GUITAR:** Treble clef. Measure 13: whole rest. Measure 14: whole rest. Measure 15: whole rest. Measure 16: whole rest.
- PENDER BASS:** Bass clef. Measure 13: whole rest. Measure 14: whole rest. Measure 15: whole rest. Measure 16: whole rest.

Measures 13, 14, 15, and 16 are indicated at the bottom of the page.

ALTO FL. I II

ALTO FL. III IV

TRPT 1

TRPT 2

TRPT 3

3 FR. HORNS

TRBN 1

TRBN 2

TRBN 3

DRUMS

PERC

KEYBOARD

VIOINS

VIOLA

CELLO

GUITAR

PENDER BASS

(HARD MUTE)

(ST. MUTE)

(ST. MUTE)

(47)

(18)

(49)

(20)

ALTO FL. I II

ALTO FL. III IV

TRPT 1

TRPT 2

TRPT 3

3 FR. HORNS

TRBN 1

TRBN 2

TRBN 3

DRUMS

PERC

KEYBOARD

VIOLINS

VIOLA

CELLO

GUITAR

FEJDER BASS

21 22 23 24

Handwritten musical score for page 158, measures 25-28. The score is written on 18 staves, each with a label on the left. The labels are: ALTO FL. I II, ALTO FL. III IV, TRPT 1, TRPT 2, TRPT 3, 3 FR. Horns, TRBN 1, TRBN 2, TRBN 3, Drums, Perc, KEYBOARD, VIOLINS, VIOLA, CELLO, GUITAR, and FENDER BASS. The music is written in 4/4 time. Measures 25 and 26 are marked with a double bar line. Measures 27 and 28 are marked with a double bar line. The FENDER BASS part has a key signature change from one flat to two flats at the start of measure 27. The Drums part has a double bar line at the end of measure 26. The Perc and KEYBOARD parts have a double bar line at the end of measure 26. The VIOLINS, VIOLA, and CELLO parts have a double bar line at the end of measure 26. The GUITAR part has a double bar line at the end of measure 26. The TRPT 1, TRPT 2, and TRPT 3 parts have a double bar line at the end of measure 26. The 3 FR. Horns part has a double bar line at the end of measure 26. The TRBN 1, TRBN 2, and TRBN 3 parts have a double bar line at the end of measure 26. The ALTO FL. I II and ALTO FL. III IV parts have a double bar line at the end of measure 26. The FENDER BASS part has a double bar line at the end of measure 26. The measures are numbered 25, 26, 27, and 28 at the bottom.

ALTO FL. I II

ALTO FL. III IV

TRPT 1

TRPT 2

TRPT 3

3 FR. Horns

TRBN 1

TRBN 2

TRBN 3

Drums

Perc

KEYBOARD

VIOLINS

VIOLA

CELLO

GUITAR

FENDER BASS

25 26 27 28

ALTO FL. $\text{E} \text{ II}$

ALTO FL. $\text{III} \text{ II}$

TRAP 1

TRAP 2

TRAP 3

3 PR. HORN

TRBN 1

TRBN 2

TRBN 3

DRUMS

PERC

KEYBOARD

VIOLINS

VIOLA

CELLO

GUITAR

FENDER
BASS

(29) (30) (31) (32)

ALTO FL. I & II

ALTO FL. III & IV

FLUTE 1

FLUTE 2

FLUTE 3

3rd HORN

TRUMPET 1

TRUMPET 2

TRUMPET 3

DRUMS

PERC

KEYBOARD

VIOLINS

VIOLA

CELLO

GUITAR

FENDER BASS

(33) (34) (35) (36)

Handwritten musical score for a 16-measure section, ending with a "FINE" marking. The score includes staves for the following instruments:

- AUDIO REC. I & II
- AUDIO REC. III & IV
- TRAP 1
- TRAP 2
- TRAP 3
- 3 PR. WOODS
- TRAP 1
- TRAP 2
- TRAP 3
- DRUMS
- PERC
- KEYBOARD
- VIOLINS
- VIOLA
- CELLO
- GUITAR
- FENDER BASS

The score is written in 4/4 time and includes various musical symbols such as notes, rests, and dynamic markings. The measures are numbered 37, 38, 39, 40, and FINE. A "FINE" marking is present in the top right corner of the page.

Compare the sketch (Example 185) and the orchestration (Example 186) to see how various lines were filled out to become orchestration. Then compare the timing sheet (Example 184), the sketch (Example 185), and the orchestration (Example 186).

After digesting my solution to this particular scene in the movie, you may wish to start anew with the timing sheet only, and come up with a sketch and orchestration which will reflect **your** approach to this scene. A well-known film composer once said that there are at least twenty-five tasteful, effective ways to score each scene of a movie so, with this thought in mind, you should feel very uninhibited. Film scoring, after all, affords a freedom of expression not present in any other form of commercial music.

Certain aspects of film music parallel the skills learned in arranging. The knowledge of orchestration, for one thing, will be essential, though some films use larger orchestras than appear on recording sessions. It would be up to the arranger to familiarize himself with the technique of orchestration so that he can feel at home with larger combinations.

The approach to music written for underscoring dialogue in a film is not unlike writing vocal background for a singer. You should be careful to thin out orchestral textures and try to write longer, less busy lines when someone is talking. Actually, the ideal orchestration is structured so that it tends to balance itself, dipping under for dialogue and coming up again when the dialogue is over. A good music editor will give you every word of dialogue, plus timings at the start and finish of each line. With the aid of a click track you can pinpoint the verbiage exactly. A way of managing dialogue as you sketch would be to indicate its placement and duration by a thin line above the staff, so:

EX. 187



Some techniques involved in film writing are not necessarily traceable to skills used in arranging.

Much of my experience in film has come through working on musicals, and, more recently, on pictures which do not fall in the category of heavy drama.

The old masters of film music, such as Franz Waxman, Victor Young, Bernard Herrmann and Miklos Rozsa, did not get their juicy assignments solely on the merit of their cultural ties to Europe. These same European roots implied a thorough grounding in harmony, theory and counterpoint at an early and therefore impressionable age, a typical total preparation for life as a composer of serious music. These men brought a depth and expertise to film scoring far above and beyond the sphere of the arranger.

You may ask why, then, do I include a chapter on “Music for Film” in a book on arranging?

The answer is multi-pronged:

A) Seventy-five percent of the music in today’s films falls in the category of theme and variation, the theme being pop-oriented and contemporary, and the variations of similar gender. There is no musical reason why a clever arranger cannot score such music once he has familiarized himself with the mechanics of film scoring.

B) Many of today’s top film composers started as arrangers: Henry Mancini, John Barry, John Williams, Lalo Schiffrin, to name a few.

C) The love of music and a desire to add to one’s knowledge of music can make it possible for any really talented arranger to narrow the gap between his craft and that of a composer of cinematic film music. He can increase his understanding of the **structure** of music by taking up the tools of counterpoint and fugue, he can sharpen them on one end to do his bidding on paper, and though constantly increasing facility, make these tools ever more penetrating on the other end, the end which extends from his fertile mind to his hand.

CHAPTER XIV

Personal and Musical Observations

In my years at Capitol Records I acquired many skills, some of them musical ones, some not.

I learned that simplicity, the presentation of "clean cut" ideas, one at a time, is usually far more effective than crowding a score page with several things going on at once. The ear of the average listener is easily distracted and confused by musical complications and seems to be more receptive to a catchy, ear-arresting figure of melodic simplicity. Speaking as we are of music in a popular vein, over-complication is even offensive to some people, since they tend to resent that which they cannot assimilate. They prefer not to "understand" complicated writing, which is a way of confessing to a feeling of inferiority, and from this state of mind it is a very short distance, psychologically, to rejection of the piece of music in question.

It would seem as if I'm suggesting that the arranger write "down" to his musically unindoctrinated audience and, in a way, I'm doing just that. The process is not unlike the self-editing that an experienced journalist or reporter goes through when writing for a newspaper. The facts are the important thing (in this case the musical ideas), and they have to be stated in as lean and economical a way as possible, since space and time are two very important factors, whether it be the **Los Angeles Times** or a three-minute recording.

Space — as the first page of a newspaper is limited in space when compared to the pages of a book, so is a three-minute recording limited when thought of in contrast to a tone poem of thirty minutes' duration.

Time — since the newspaper is read and its contents assimilated over a brief period, compared to the time needed to digest the contents of a book, so does the three-minute recording have a very short time to make its impact felt on the ear of the listener, soon to be crowded out by a million other sounds during the course of the day's experiences.

A very important element in conveying musical ideas is clarity. The strength of the various sounds in the orchestra have to be calculated carefully so that the important instruments stand out, and are not obscured by other instruments playing at the same time. For example, a flute solo is best when left by itself, accompanied by a rhythm section, or sustained strings marked "piano." Yet a piccolo in its high register can be heard above a full symphony orchestra! Arrangements often go wrong when microphones are asked to do the balancing which should have been part of the orchestration. A flute solo backed up by sustained brass tends to disappear, and if the recording engineer has to dig it out electronically, the round full sound of the brass will suffer. A few stunning setbacks along the way will teach the student arranger to calculate "weights and strengths" within the orchestra before the first note of his arrangement is ever played.

In answer to the oft-repeated question, "How did you learn to arrange?" I always mention the name "Bill Finegan." Bill and I met when I was a junior in high school and he was doing free-lance arranging from his home in Rumson, New Jersey.

Not long after we met, he joined Glenn Miller and for the first time began to receive national recognition for his work with that orchestra. His arrangements for Glenn demonstrated that great originality and inventiveness are possible even within the restrictive confines of a highly stylized band, which the Miller orchestra certainly was. We would sit up all night listening to classical music, especially that of Shostakovich, whose First Symphony, premiered in 1937, captured Bill's interest and admiration.

I would take a lesson every week from Bill. This routine was interrupted occasionally when his work for Miller made it impossible for him to see me.

He started me very simply. An early assignment was to write a chorus of "Swanee River" for saxophones. I can't remember how it turned out, but my guess is that it had to be done over a couple of times before he was satisfied.

Not long after I started studying with Bill, his work for the Miller orchestra made it necessary for him to travel with the band and my lessons came to an abrupt end.

I free-lanced for a while, just as Bill had done before the Miller phone call, doing occasional arrangements for bands that played the ballrooms along the Jersey coast. Bill had urged me to experiment, to try to get different sounds using various combinations of instruments, and I did just that. Some of the experiments were successful and some not. I made it a point to include the happy combinations in my slowly growing list of workable orchestration tools, and in that way I gradually acquired a working knowledge of the dance orchestra. It wasn't until years later that my studies with Mario Castelnuovo-Tedesco gave me a degree of assurance with larger, more symphonic groups of instruments.

The whole process of learning to arrange, for me, involved a great deal of listening to the efforts of others, plus a long history of trial and error.

Bill Finegan taught me to enjoy and appreciate the classics as the prime source of musical richness. He also, by example, showed me that much effort is required to produce one's best work, and that it is unwise and unfair to settle for any less. I remember showing up for a lesson one afternoon and being confronted by a very exhausted Finegan, up all the previous night, unshaven, red-eyed, and standing in the midst of a small pile of score pages, representing no less than **twenty-six** possible introductions for the same arrangement, as yet unfinished.

There is a fine line between trying to do one's best and committing emotional suicide by falling on one's pencil, the difference being that the first idea one gets is quite often the best one, and ones which follow can sometimes be attributed to a lack of confidence in one's own efforts. I leave it to each of you to try to discover the difference between artistic integrity and self-defeating futility.

Bill's teachings enabled me to get a job with Charlie Spivak as a trombone player and arranger. I was nineteen years old at the time, and joined the band at Glen Island Casino in New Rochelle, New York, during Christmas Week, 1940. I was full of energy and enthusiasm and possessed a certain amount of "know-how" and technique, but needed a lot more in order to achieve any degree of polish or distinctiveness in my arranging. Charlie's band gave me much of what I needed.

I stayed two years and then made an eighteen-month detour into the Merchant Marine Training Center at Sheepshead Bay, Brooklyn.

The Merchant Marine maintained an orchestra as part of its staff, its function being to provide music for weekly shows and dances staged to entertain the trainees, ably assisted by the fair maids of Brooklyn who arrived in busloads to help the boys keep their minds off their troubles by contributing other troubles, affecting the heart and other unprotected places.

I was assigned to this orchestra, which boasted a small though very proficient string section, thereby enabling me to start learning how to write for strings. It was a marvelous workshop and I took full advantage of it throughout the time I was at Sheepshead Bay.

My idyllic stay in "Uncle Sam's Conservatory of Music" was brought to a sudden jarring halt by another agency representing the same "Dear Uncle," who in one terse communication informed me that I was classified 1-A, and must report for a physical and induction into the armed forces at a certain immovable, inflexible date.

To save myself embarrassment and inconvenience, I followed their instructions to the letter, and on the day specified permitted myself to be herded through seemingly endless check-points, each teeming with specialists of every category, and all congregated in a huge armory in uptown Manhattan which had been given over to this purpose for the duration of the war.

I emerged from the darkness of that big stone building to the blinding sunlight of May, 1944, with a strange feeling of unfulfillment. I had not been accepted; neither had I been rejected. All my papers indicated was that I would be re-examined at some, so far, unspecified date in the future.

I seized on this display of bureaucratic indecision to take a train to Chicago, where I joined the Tommy Dorsey Orchestra, then appearing at the Panther Room of the Hotel Sherman. I arrived on May 11, 1944, and the opportunity awaiting me to learn more about arranging was worth its weight in gold, even at the unsensational rates of those days. Tommy sported a sizeable string section plus a harp, and possessed a library of arrangements representing some of the finest arrangers of the day: Eddie Sauter, Sy Oliver, a few from my mentor, Bill Finegan, and some more contributions from various gifted sources.

I pounced on the string section and was happily proceeding to "immortalize" it when Tommy, to my dismay, told me to "cool it" with the string parts, since the string section's stay with the band might be short-lived. He explained to me that their **basic function** was to serve as a **business expense** for tax purposes, a deduction he might dispense with at any time, and that henceforth I was to write the arrangements in such a way as to make them playable **without** strings, if need be.

I was crushed, of course, but followed his instructions. Nevertheless, I'd had enough time **before** he stopped me to try out several different string voicings and thus was able to add to my "tool box" proportionately.

When the band, after travelling a great deal (Chicago to California and back to Chicago again), finally returned to New York City in December, 1944, "Uncle" resumed his efforts to direct me toward doing something really useful with my life, and this time he succeeded.

I was inducted into the army on April 9, 1945, and sent to Fort Dix for processing, where my only contact with music centered around a recorded Bing Crosby singing "The Anniversary Waltz" each morning at six, as we were told to fall out of bed and get moving. That highly inappropriate selection, coupled with the glare of a naked light bulb swinging above my bunk, got things started each day on the "leftest" of left feet, psychologically speaking. I'll never forgive Bing or the Waltz!

After a few days at Fort Dix we were piled into Civil War era railroad cars, and puffed down to Camp Croft, South Carolina, where after detraining, we were marched to a wide, flat area carpeted by warm green grass, and told to sit down. We hardly had time to contemplate our new-found verdant comfort when a young second lieutenant stepped out on the balcony of a nearby building and instructed us to file away whatever skills we had acquired in civilian life and that, from this day on, we were all foot-soldiers!

The man next to me began to cry very softly. Later he told me that he had been a civil engineer and that, up 'til the moment the "shavetail" made his fateful announcement, he had been certain the army would use him in some engineering capacity. I told him that I was a music arranger and trombone player. I couldn't tell if he felt better or worse after that.

My army stint was over after fifteen fun-packed months. Contrary to the young officer's pronunciamento, I was transferred to a band as soon as hostilities ceased. I heard later that the civil engineer spent the balance of his army time in the relative safety of the post mail room. The rest of the battalion, totalling some eight hundred men, went to Nagasaki as occupation troops.

I was discharged at Camp Atterbury, Indiana, on June 26, 1946, and proceeded on to New York City, where my mother lived. I spent the rest of that year arranging for bands in the area before coming to California at the end of the year as arranger for the Bob Crosby Orchestra.

The job with Crosby evaporated almost as soon as I arrived, and I was stuck in Los Angeles, a town populated by strangers, with no union card. L.A., like New York, required a six-months' residence before work was available to a "transferee." I had transferred from New York City Local #802 and therefore had to wait out the required time before soliciting local employment.

The first job I found was in Hollywood, as an arranger for NBC Radio.

NBC's offices were located at the corner of Sunset Boulevard and Vine Street, and were a sort of Art Deco circa "Queen Mary" in design, painted a cool green. It was altogether quite attractive, especially to my eyes, since the building symbolized an opportunity to write music that would be heard **all over the country, coast to coast!**

I stayed at NBC for three years, learning how to simplify my ideas and how to get them on paper in (for me) an incredibly short space of time.

Finally Henry Russell, Music Director, NBC Western Division, the kindly gentleman who had first bade me welcome, was fired and with him went his entire staff including, unfortunately, **me**!

Those years, 1947-1950, were especially precious to me, not only for the "on the job training" previously mentioned, but because I took advantage of a fairly easy work schedule to become a pupil of Mario Castelnuovo-Tedesco, a distinguished Italian composer who had fled his native land in 1939, never to return. I studied symphonic orchestration and composition with this wonderful gentleman for two and a half years; actually until the calls for my services as an arranger started coming so thick and fast that I felt obliged to curtail my studies (a mistake, as I mention in the Foreword of this book).

He was a magnificent teacher, a superb musician, and a very warm and sympathetic sounding board for young ideas.

Mr. Tedesco and Bill Finegan both served as major influences on my work and I owe each of them a debt which can never be repaid.

The most significant assignment I received from a career standpoint was one which required me to write an arrangement of "Mona Lisa" for Nat Cole. The year was 1950, and from this point forward, work became increasingly plentiful and assignments more prestigious.

Many years later, after Nat's death, his daughter, Natalie, by now a star in her own right, asked me to appear on her TV special and to arrange and conduct **Mona Lisa** for her. Apparently the magic of that song still persisted, for when she and I rehearsed the number in preparation for the show, she stopped singing at one point, put her arms around me, and burst into tears. I guess her Daddy, never far from her thoughts, seemed even closer at that moment. I know he was for me.

Not long after the **Mona Lisa** arrangement for Nat, I started receiving calls from Capitol Records to work with some of their other artists, and subtly, almost without my realizing it, I began to spend more and more time in that wonderful, mysterious, acoustically sensitive cave called a "recording studio."

Thousands, by now millions of dollars are funnelled into the construction and equipment of a modern recording studio. The technicians hired to operate the sophisticated electronic machinery needed to turn out a recording which measures up to today's standards receive additional thousands in salaries during the course of a year's activity. The musicians who are needed to provide the sounds to be recorded require even more funding than the technical staff, there being more of them hired during the course of a year, and at a higher basic rate.

The point of all this talk about money is, for me, the fact that the product is so ephemeral, so delicate, so fragile, and so totally unpredictable!

The record disc itself is quite tangible, of course, but it is merely the vehicle used to expose to the listener's ear whatever the engineer and all his searching microphones can pick up in the mysterious cavern he calls his workshop.

Usually, when doing orchestral recording, a balance test of each section is the first step undertaken. Sometimes, within a section, a certain unevenness of tone or volume is present, requiring the musicians to play their individual parts one at a time, adding line upon line in a pyramid-like effect, to test the strength of each part against the others.

Next, a section of the arrangement to be recorded is played, usually a passage where all the players have parts, to get an idea of the overall sound to be achieved.

Then the engineer is ready to hear the arrangement in its entirety, so the orchestra "runs it down." All the while, the engineer is having his "set up" assistants move a microphone here, replace one there, test chairs for "squeaks," make sure electronic connections are secure, all the very **little** but very important things preliminary to recording the music.

He then signals for "TAKE #1," and the tape machines start rolling. Unless there are serious mixups in the playing or recording of the music, the orchestra is given ten minutes' break at the end of TAKE #1. And the conductor, the engineer, and all the other interested persons listen to the music as it is played back through the speakers.

It is then that the arranger can become euphoric if the results warrant it.

More often he'll find so much to criticize in the playing and recording that he will start taking notes, mental or written, listing those elements which can be improved on in "TAKE #2."

The time for euphoria, if ever, is usually after the recording session is over, the musicians have filed out, and the arranger is left with the engineer, the producer, and his own sensitivities. Then, if all has gone well, he can relax and enjoy!

Much of the remainder of Chapter XIV is given over to reminiscences of a variety of artists, both vocal and instrumental, mostly within the confines of that magical, mysterious, unpredictable room called the "recording studio."

The formula for **Songs for Swinging Lovers**, perhaps the most successful album I did with Frank Sinatra, has been the subject of many conversations I have had, both with disc jockeys and other arrangers.

One advantage I enjoyed in my musical discussions with Frank was our mutual admiration for Tommy Dorsey. Frank sang with Tommy in 1940-42, and I arranged and played trombone with Dorsey some two years later (1944-45).

In planning **Songs for Swinging Lovers**, Frank commented on "sustained strings" as part of the background to be used. Perhaps unconsciously my ear recalled some of the fine arrangements Sy Oliver had done for Tommy, using sustained strings but also employing rhythmic fills by brass and saxes to generate excitement. The strings, by observing crescendos in the right places, add to the pace and tension of such writing without getting in the way. It was a further embroidery on this basic idea to add the bass trombone (George Roberts) plus the unmistakably insinuating fills of Harry "Sweets" Edison on Harmon-muted trumpet. I wish that all effective formulas could be arrived at so simply, but such, of course, is not the case.

When I joined Capitol Records in 1951, my first client was Nat Cole, as sweet, unassuming and musical as the sound of his voice would indicate. His roots were in jazz and many of the rhythmic arrangements I did for him were the result of afternoon sessions at his palatial home at 201 South Muirfield Drive in Los Angeles.

He would sit at the piano and play a very pianistic jazz fill as a guide to the mood he expected in the arrangement we were discussing. It was my task to try to translate this mood to orchestral terms, and many times it worked out well. Nat, had he not discovered his singing voice, would have remained one of the top jazz pianists in the country. But I don't think that this was a source of much sorrow or regret to him, since his vocal efforts carried him to such heights of fame and fortune.

I remember a certain summer afternoon in Chicago many years ago. Nat was appearing at a club called the Chez Paree, as he had many times previously, and was scheduled to do several recording sessions, of which this was to be the first.

Lee Gillette, Nat's favorite A and R man, and I had come from Los Angeles by train. (Lee refused to fly.) We had assembled a good Chicago orchestra at Universal Studios. We were about to start the session when the engineer detected some disturbing sound leaking into the control room. It was Saturday and we were the only ones making records that day in *that* particular corner of Chicago. Nevertheless, the sounds persisted.

It wasn't until considerable time had **been wasted** (musicians' salaries, recording studio costs, etc.), that someone noticed Nat himself, hunched over a music stand planted directly below a microphone, listening to the magic of his pet baseball player, Henry Aaron, via a tiny transistor radio!

Nat had a large family, each and every **member** enjoying the reflected glory of Nat's spectacular career. Sometimes this family, already sizeable, was swollen alarmingly by very distant relatives and less than intimate friends, especially during an engagement in a large city. I remember an evening between shows at the Chicago Theater when Carl, Nat's valet, entered his dressing room and announced that Nat's cousin was here to see him. Nat asked, "Which cousin?" and after a whispered conversation outside the dressing room door, Carl reported, "He says he's the skinny one!"

Frank Sinatra, whom I started to work with at Capitol in 1953, was quite a different person than Nat Cole. Whereas Nat was relaxed and easy-going, Frank was often tense and businesslike. Though our meetings were invariably pleasant since they had to do with the subject of music, which we both loved, there was an air of excitement and expectancy where Frank was involved. I had learned in high school the knack of taking speedy, concise notes when someone was talking, notes which, even if referred to many weeks later, made sense and retained clarity. This ability was sometimes taxed to the utmost when conferring with Frank about an album to be recorded several months subsequent to the meeting on the subject, during which interval he might be out of town and unavailable for re-checking any of the details.

In those days twelve songs or more comprised an album, and Frank would start with the most agonizingly specific comments on the first few tunes, often referring to classical compositions for examples of what he expected to hear in the orchestration. This hot, precise, demanding pace would continue for an hour or two, perhaps through the first four or five songs and then, as if he too was beginning to feel the strain, he would start to slack off, the comments gradually would grow less specific and, perhaps a tune or so later, he would say, simply, "Do what you think is best." My headache would start to subside, my pulse return to normal, and another Sinatra-Riddle album would be launched.

At a Sinatra session the air was usually loaded with electricity. The thoughts that raced through my head were hardly ones to calm the nerves. On the contrary - questions such as: "Will he like the arrangement?" and "Is the tempo comfortable for him?" were soon answered. If he didn't make any reference to the arrangement, chances are it was acceptable. And as far as the tempo was concerned, he often set that with a crisp snap of his fingers or a characteristic rhythmic hunching of the shoulders.

I've stressed dynamics in another chapter of this book, and am convinced that dynamic shadings are a vital part of presenting music effectively. Frank accentuated my awareness of dynamics by exhibiting his own sensitivity in that direction. It is one thing to indicate by dynamic markings *p*, *mp*, *mf*, etc., how you want to have the orchestra play your music. It is quite another to induce a group of blase, battle-scarred musicians to observe those markings and to play accordingly. I would try, by word and gesture, to get them to **play correctly**, but if, after a couple of times through the orchestra **still** had not effectively observed the dynamics, Frank would suddenly turn and draw from them the most exquisite shadings, using the most effective means yet discovered, sheer intimidation.

He contributed a lot to the orchestral part of his own records, just by levelling at the musicians a hostile stare from those magnetic blue eyes! The negative part of this device was to make me, or any other conductor, feel at that moment as if he had two left feet, three ears and one eye, but it was the positive factor that found its way into the record. And that, I ruefully admit, is what counts.

Sinatra, at least during the early years, frequently exhibited concern and thoughtfulness which seemed quite incongruous when compared to his rather brittle exterior.

In the fall of 1956, when I was working at Sam Goldwyn Studios doing Frank's arrangements for **Guys and Dolls**, one of Malibu's famous brush fires roared out of control and threatened to destroy the house we lived in at that time. Frank heard about the fire and offered to dispatch as many company trucks as would be necessary to move our belongings to a safer place. The flames veered away in another direction and the house did not have to be evacuated, but the offer was there when it was needed most.

In 1957 Frank agreed to do a series of musical shows for ABC Television. The format called for Sinatra to sing several songs per show, plus the appearance of a guest or two who would perform with him. The accepted way to do a show of that nature was to do a series of prerecordings in a recording studio with Frank and the orchestra, and then for Frank plus guests to go before the cameras and be photographed while lip-synching to the playbacks already recorded.

He balked at this procedure, probably because it was laborious and time-consuming, and announced that he would sing the songs while being photographed, accompanied only by a rhythm section. The rest of the orchestra was to be added later. That was his choice and that's how it was done.

My job was to take Frank's arrangements, hire an orchestra and, with the film running, record the music to the picture in a recording studio fitted for projection. In this case it was the stage at Goldwyn Studios, which in those days boasted the finest sound in town for larger groups of musicians.

I was given a headset, through which was played Frank's voice plus the faint sound of the rhythm section he had used to accompany him when he filmed the shows. Dick Carruth, a very experienced film editor, was given the task of preparing the film for scoring, which entailed a complicated system of "punches" and "streamers" to help me cue the orchestra in (and out) at proper times. The rhythm section used to accompany Frank had not had the benefit of click tracks to stabilize them, hence there were many "thin ice" moments when it seemed almost impossible to anticipate their slight speed-ups and slow-downs. Nevertheless, it was vital to the project that it sound as if it were done all at **one** time with **one** orchestra, so "speed-up" and "slow-down" we did.

When the underscoring had been completed on the first few shows, Frank was invited to see them in a projection room. For quite a while we sat side by side viewing the results of our efforts. Suddenly he got up, told the projectionist to stop the film and turn on the house lights. He then put into words what both of us had been thinking for some time; simply, that as perfectly as I had followed him with the orchestration, I had neglected one vital detail: I had not had the orchestra tune to Frank's voice before we started recording!

The strong lights which they used in those days to illuminate the stage for cameras had thrown off considerable heat, which, in turn, had relaxed the strings in the piano used in the rhythm section accompanying Frank during the original filming. This had dropped the pitch of the piano considerably and, naturally, affected the pitch of Frank's voice. When we added the full orchestra we were noticeably higher in pitch than he, which created a musical effect extremely unflattering to the soloist!

He could have "blown his stack" and fired me on the spot. Many artists would have done just that, considering the time and money I had just wasted. Instead, he simply told me to rescore the shows and **this time** to tune up to his voice! Pretty wonderful, that guy.

One more instance comes to mind that demonstrates how loyal he could be. In the fall of 1955 he was scheduled to do a remake of the stage play-cum-movie, **Our Town**, as a 90-minute special for NBC TV. This time it was to be a musical, with songs by Cahn and Van Heusen.

In the cast were such names as Eva Marie Saint, Paul Newman, Ernest Truex, and Paul Hartman. **A real event.**

Frank assigned me to arrange and conduct the show, and naturally I leaped at the opportunity. I recall going to his apartment on Wilshire Boulevard in Westwood to discuss the arrangements. During the conversation he told me that, while he was out of town for a few days, NBC had hired a conductor from Chicago to do the show, but that I could still do the arrangements. I was deeply disappointed, and told him so. He said there was very little he could do at this point, since the show was to air in a few days. Nevertheless, a little while later he excused himself, made a phone call in the next room, and returned to tell me that he had just put things back in order again, and that I'd better get out to NBC Burbank and start learning the show, since I had six days left before air time!

In those days, TV shows were done "live," as if we were performing in a theater to a live audience. There were no pre-tapings and therefore no second chances to get it right. We sailed through the ninety minutes without a hitch. I received an "Emmy" nomination for the show and developed a new respect for a man who not only was a fine singer and artist, but who also kept his word!

Frank and Nat, each most inspiring and rewarding to work with, but poles apart in their personalities and their approach to music!

Ella Fitzgerald, one of the purest natural talents who has ever lived, is a very warm and kindly person. Usually she is very relaxed and easy-going, her marvelous concept of singing entirely unconventional and instinctive. Working with her and planning out arrangements is utterly devoid of problems of any kind, and she is almost always cheerful, willing and cooperative. Only when the demands of her incredible schedule of personal appearances sap her strength does she droop a little and get a bit short-tempered or irritable. You can almost tell when her feet hurt by her mood and attitude.

I remember the Gershwin album (1959) as a prime example of Ella's uncomplicated, almost childlike nature. In fifty-nine selections recorded over a period of eight months, not a note was changed in any arrangement, no key was altered, no routine was re-structured. Everything went according to plan, pleasantly and entirely satisfactorily. That's quite a tribute to a great artist and wonderful human being.

Ella has a great big heart, which reaches out to everyone in need, especially to children. I remember visiting her when she was baby-sitting a little boy. I think it was her grandnephew. The smooth shiny tiles of her lovely Spanish-style home, though beautiful to behold, posed a special hazard for a little fellow speeding along in a wooden go-cart, and I noticed how hard it was for her to assume a gruff exterior toward her little charge, in an effort to make him slow down and avoid breaking his neck.

Another aspect of Ella's life are her occasional tirades against "Norman" (her long-time mentor, Norman Granz), complaining sometimes about the ambitious series of personal appearances he has set up for her, other times about the choice of songs he has selected for her to record on his Pablo label. Once again, as in the case of her gruffness with the little boy, her petulance is very transparent and is more for effect than anything else. As comfortable as her pretty home is, and as happy as she must be to return to its quiet orderliness after a series of hectic "gigs" in Europe, I am told she gets restless after a few weeks of relaxation, and in spite of herself is drawn back on the road to resume her travels.

As far as the songs are concerned, Norman brings a list of songs which represent his choice of material for her to record, and Ella brings a list of tunes which **she** would like to sing, and they sit down, whether it be at his office or her home, and thrash the thing out.

Norman has as many complaints about **her** choices as she has about his, and whenever I'm present at one of these "song siftings," I am constantly amused, because through all the fuss and feather shines the respect and affection they have for each other. It seems obvious to everyone but the two principals.

And to make it even funnier and even more touching, one suspects that this has been going on for years!

My memory of working with Judy Garland is somewhat vague. In 1956 I did two albums with her for Capitol Records, followed by a TV special for General Electric, and no incident or occurrence seems to help me remember her as vividly as I do Nat Cole. She was invariably pleasant and gracious to me and was very appreciative of my work. Her favorite arrangement of those I did for her was **Come Rain or Come Shine**. The vocal sketch, written by her old friend from the MGM days, Roger Edens, was very taxing and she found that the only way to successfully complete the recording of this particular song was by singing over the pre-recorded orchestra track. The final product was excellent, vocally. But the semi-submerged band track, to my way of thinking, killed a great deal of the drive and excitement that would have been present had she recorded her voice simultaneously with the orchestra.

Subsequent to the TV show, Judy asked me to do some personal appearances with her. One such event took place in Chicago's Orchestra Hall in the summer of 1957, and was a week-long engagement to packed houses every night, with standing ovations at the end of each performance. These days, people feel a standing ovation is mandatory if someone in the audience inadvertently drops his car keys. But in 1957 it was different. They had to be inspired to get off their seats.

Judy had a rhapsodic frailty all her own, and her nightly rendition of **Over the Rainbow**, while sitting on the apron of the stage just above the audience, was a musical thrill I'll never forget.

I remember doing a couple of TV shows with Gene Kelly. On one of them, probably around 1958, Gene had Carl Sandberg as a guest. I was excited at the opportunity of working with Mr. Sandberg and perhaps being able to talk with him. My interest in American history, including the Civil War period, made me especially desirous of meeting him, since he had authored what many people feel is the definitive biography of Abraham Lincoln.

That fact, coupled with my knowledge that he had, as a young man, served in the army during the Spanish-American War, made the chance of talking to him a heady experience to contemplate.

My musical duties on the show included composing the underscoring for a recitation by Mr. Sandberg, and I tried to make each note a gem, in keeping with the special feeling I had for him and his place in literary history.

The show came off well, as I remember, and at the cocktail party and dinner which followed I set about cornering my prize before someone else monopolized him.

He recognized me from having seen me at the many rehearsals we'd attended, and was very cordial.

After telling him how much I enjoyed his biography of Abraham Lincoln and how honored I was to be in his presence, I proceeded to try to wheedle from him details of his Spanish-American War service, including such things as what type of uniforms they wore, what calibre weapons they carried, the quality of army food in those days — "Did they sleep in tents?" — and was prepared to continue in this vein for some time until, with a wave of his hand, he cut me off in mid-phrase and said "Let's forget about all that junk and just talk about jazz!"

No album I have ever done has given me more pleasure and satisfaction than the one I arranged and conducted for Oscar Peterson. I had always admired his dexterity, his "star-shower" way of cascading note upon note in a dazzling display of technique that many concert pianists would admire. Oscar has a way with harmonies that is particularly his own, and his frequent use of polyphony arouses my own sympathetic vibrations, since I too have worked with polyphonic style. Accordingly, Norman Granz reached a pair of receptive ears when he asked me if I would do an album with Oscar.

Typically, Oscar was in the midst of a tour and I was up to my elbows in work when we first met to discuss our project. But he swiftly made a list of tunes he wanted to do and left the rest up to me.

Since 1965 was a little before the cassette was to become so commonplace, I had nothing to listen to which would give me the harmonies he intended to use when playing the tunes in the album. Therefore I planned the arrangements cautiously so that Oscar was accompanied only by his group when playing his solos. In this way he would feel unhindered harmonically, since it is a simpler task to call out a chord progression to a guitarist and bassist than to re-work the parts for a whole orchestra.

Oscar and I recorded the album at T. T. G. Studios in Hollywood, and everything came off as planned. As is my habit, several combinations of instruments were used in the album in an effort to provide variety and interesting listening. One of the textures which proved most rewarding was a mixture of five flutes, five horns and ten celli. Somehow the "velvet" so produced is an especially complimentary and "complementary" background for the piano, and Oscar made the most of it.

The album, released on Verve, is titled simply **Oscar Peterson and Nelson Riddle**.

Oscar's favorite selection in the album is **Someday My Prince Will Come** and my favorite is a song called **My Ship**, a wonderful old standard from the Broadway show **Lady in the Dark**, played more slowly than most people would consider tasteful but, to my way of thinking, permitting Oscar to weave a spell the likes of which I've seldom heard, even from him! His own composition, **Nightingale**, is a standout addition to an album which shall remain one of my favorites among all I have done.

One of my recent recording assignments was one of the most unusual, involving two extremely talented and colorful instrumentalists.

The English label EMI asked me to arrange and conduct an album featuring the divergent skills of Stephane Grappelly, the ageless jazz violinist, and Yehudi Menuhin, "wonderboy" of the classics. The tunes to be arranged were from the musical scores of Fred Astaire films, which made available some wonderful old songs written by top composers and lyricists, a truly exciting assignment.

As if this weren't enough to look forward to, EMI stipulated that the album be recorded at Abbey Road Studios in London, on July 15th and 16th, 1981, using the best English musicians available, which indicates a very elegant orchestra indeed!

England in the summertime is a delight. My wife and I enjoyed our stay very much, the musical reason for our being over there adding a special touch of pleasant excitement to our visit.

The recording took place as scheduled in Studio #2, which is purported to be the best recording facility in the British Isles or Europe. Certainly it is a sensitive room and our digital recording undoubtedly reflects this quality.

The two violinists were fascinating to work with, each in his own way. Yehudi had requested that his solo parts be sent ahead to an island in Greece where he was vacationing prior to the session. This was done and he showed total familiarity with the material, a source of satisfaction to me and undoubtedly contributing to Yehudi's own feeling of security and authority.

I had written all the arrangements in California and had enlisted the help of a couple of violinist friends to mark suggested bowings on Yehudi's music. I was rewarded for this measure of preparation by being told by Yehudi that the parts were eminently playable and that they showed a certain knowledge of the instrument, for which he thanked me.

Stephane's solos were equally important, and though he hadn't had the advantage of scanning them in advance of the recording sessions, he demonstrated quick perception and adaptability which enabled him to play everything masterfully after a run-down or two.

After the recordings were completed, the three of us were asked to attend a photographic session, not in the street clothes used for the recording but dressed in top hat, white tie, and tails, to conform to the musical theme of the album: songs associated with Fred Astaire.

Being mostly thumbs and elbows in certain situations, I needed an EMI recording executive to help me into my finery, especially to aid in subduing that elusive brass collar button everyone ends up cursing. Stephane donned his gay apparel in the same EMI office cum-dressing room as I. He put on everything quickly and efficiently, needing no outside help until he got to the top hat, which promptly fell down and rested on his ears and the bridge of his nose. This crisis was circumvented by the EMI official, who suggested that the hat be stuffed with tissue up to the point where Stephane's head would take over.

The "hat trick" having been accomplished, Stephane and I went down to the photographic session. There we found an impeccably turned out Yehudi, dressed in his own tails, not in "rented duds" as we were, and looking as if he were born to wear this particular regalia. Up 'til then my money was on Fred Astaire himself who, even in an old photograph I found, would make us all look like clumsy misfits. Yehudi's appearance made me re-think it!

The photographer lined us up, showed us how to hold the cane and gloves each of us possessed, and told us to put on our top hats. At this point something very unexpected took place. Yehudi announced in a quiet, firm voice that he would not have his picture taken in a top hat, going on to explain how foolish he felt wearing it and his fear that this attitude would be reflected in his face and that it just wouldn't be appropriate.

The photographer was speechless, since undoubtedly he had received instructions specifying what he was to deliver pictorially. Sensing impending disaster hovering over the photography session, I attempted to intercede with Yehudi, telling him that he would look splendid in a top hat, but he was not to be cajoled, not by me anyway. Stephane, who knows him a great deal better than I, tried to tease Yehudi out of his stubborn position, but to no avail.

At this point Yehudi's charming wife, Diana, sailed into the room, apologizing for being late, and asked us how things were progressing. Thinking that perhaps the situation could still be salvaged, I rushed over to Diana and begged her to intercede with Yehudi and persuade him to put his hat on so that a proper photograph could grace the cover of an album containing a song titled "Top Hat, White Tie, and Tails." She promptly dashed my hopes by declaring that it was **her** idea that he be photographed hatless, since her darling Yehudi looked **ridiculous** under a "stove pipe" and she wasn't going to have him pictured on the cover of an album (or anywhere else) in anything less than the most flattering pose!

The album, with or without top hats, is a stunning success. In the U.S., it is available on Angel Records.

In 1972, Julie Andrews elected to do a series of 24 one-hour musicals for ABC TV and selected me as music director. Nick Vanoff, the producer, was a very experienced hand at such events, having produced **The Hollywood Palace**, a musical variety show, for a number of years.

The pre-recording was done at Filmways Studios on Sunset, in Hollywood; the actual photography at ABC Studios on Prospect, in Los Angeles. And such a volume of music was fed into the maw of that show each week that it required a staff of seven arrangers to complete it all in time.

The scripts were not the usual thing either - more like song books, filled from cover to cover with lyrics of the songs to be sung and danced to.

Nick drew from the very best to provide guests for the show, and the musical selections were usually top-drawer, from the catalogues of such composers and lyricists as Cole Porter, Noel Coward, Jerome Kern, Rodgers and Hammerstein, et al, plus an occasional sprinkling of the output of more contemporary writers. Julie herself, always the consummate performer whether singing or dancing, is a perfectionist, with figure and face to match. The star and center of attention of such a series is under incredible pressure from without and within. In spite of this, Julie managed to maintain a generally sunny disposition during the entire 24 shows, which indicated a self-discipline characteristically British!

One week, we had Sammy Davis as a guest, and inevitably that particular show ended with a routine combining dancing and singing, a natural for both Julie and Sammy, who do both with such grace and aplomb.

This particular routine contained a quasi-“hip” flavor, to accommodate Sammy, especially in the lyrics of the song they sang as they danced. One phrase of the lyric stays with me to this day, although some ten years have elapsed since then. Sammy and Julie were singing, “GET IT ON, GET IT ON,” in unison, which roughly translated means “get with it,” the “it” being the enthusiasm and beat of the number. When Sammy sang it, it sounded reasonably authentic, but when Julie echoed it, the words sound very stilted, the simple explanation being that Julie, every bit as “hip” as Sammy, is “hip” or sophisticated in a very British, “music hall” way - though I recall that her dancing during the same number was far from being stiff or stilted, the epitome of grace and rhythm.

The show that featured the music of Noel Coward found Julie in her element. Indeed the main reason I remember the “Get It On” sequence was that, in every other situation, in every other show, “Princess Julie” reigned supreme!

One indefinable and yet important skill to acquire is the subtle change of approach needed to cope with a variety of singers and their varied personalities.

As I was working to finish this book, I was also involved in completing an album with Linda Ronstadt, a young lady who, musically and personally, is quite different from any of the artists I’ve mentioned so far.

She is, first of all, very much the “new generation” of artist, part of **today’s** scene, not **yesterday’s** or the day before, and a great big star who packs theaters and auditoriums wherever she goes. The kids love her, and I can easily see why. On the one hand she has that boundless youthful energy when performing, and a clear true voice with literally “gobs” of strength to project it in all directions from the stage (almost enough “steam” to make her independent of sound systems). And with all these things going for her, the contrasting side of her nature reveals a quiet, studious (almost dreamy) introspective searching quality that spurs her to reach down inside herself and put her **very best** on record.

She was in the studio in Santa Monica where we were recording the album, off and on, from June, 1982 to 1983, listening to her vocal tracks, one at a time, planning how she could improve this one, rephrase that one, even do a couple of them over again completely, until they satisfied her musicality and the rigid demands she makes of herself.

She is intensely serious at these times when she's probing for quality. I've seen her dark eyes grow even darker with the intensity generated by her inner quest.

Then, suddenly, she breaks the spell with a quick emotional back-flip, as it were, into some "little-girl" mannerisms which seem to be entirely in keeping with the bobby sox and pig-tails which she wears, more often than not.

Once, while rehearsing the orchestra in preparation for a "take," I was stunned to discover that my soloist had disappeared into thin air. One moment she was standing under a microphone in the vocal booth, humming along with the band, and a split second later, she had vanished!

All was explained when I happened to see two little feet encased in anklets and Mary-Janes make a brief appearance through the glass wall of the vocal booth. I peered down and there, on the floor, was our Linda, doing some body-building calisthenics as the orchestra played.

One must understand a little of human nature in order to work effectively with that strong breed called "singers." I should first mention that they are all egotists, though in varying degrees. The fact that they earn their livelihood interpreting someone else's music is part proof of that fact. Each singer feels that he or she is making a sizeable contribution to the saleability and charm of a composition by means of an individual and special interpretation. Moreover, each successful singer has the personal confidence needed to convince others of that fact. As success follows on success many of the singers feel an increasing sense of ownership and interpretive creativity towards the songs they made famous (or vice versa). It is a wise songwriter who leaves this illusion untouched, for the golden thread of association which enables a Sammy Cahn or a Jimmy Van Heusen to have hit after hit with a Frank Sinatra is easily severed, usually never to be repaired.

All this philosophy is a good background for an arranger's approach to his singer. A study, whether deliberate or by instinct, of the "feel" of a singer is most important and helps whatever musical efforts are exerted to achieve their full fruition.

Some of this may be starting to sound like the message inside a fortune cookie. But in practice such awareness and sensitivity to the singer as an artist have a decided beneficial effect on the singer - arranger relationship.

Two memorable examples of "difference of approach" would be Nat Cole and Frank Sinatra. Both came from very modest backgrounds; both unusually gifted musically, both superb performers. But there the parallel ends.

Nat was relaxed, shy, almost always pleasant, and had an infectious sense of humor. Musically he was rather unsophisticated in his tastes, his knowledge of the classics almost nil. He was an accomplished jazz pianist and had all the digital facility and inventiveness, both harmonic and melodic, associated with such a talent. When taking notes for forthcoming assignments I would often sit beside him on the piano bench, and he would play a phrase or two descriptive of an intro or an ending to the particular song we were working on. Occasionally, as in the piano album I did with him, the ideas he demonstrated could be orchestrated note for note just as he played them. He derived a considerable degree of satisfaction when this occurred, and it contributed to our feeling of mutual understanding and harmony (musical as well as personal).

When you worked with Nat, simple, effective ideas seemed to be the best. To some extent that is a commentary on the personality of Nat himself.

Frank, in sharp contrast to Nat's easy-going ways, is not always relaxed, not in the least bit shy, and sometimes crisp and businesslike instead of being relaxed and pleasant. Though Frank never **really** learned how to read music, much less play an instrument well, he is a man attracted to all the arts, especially classical music. When writing arrangements for him I could often indulge myself in flights of neo-classical imagery, especially in introductions and endings. I try with him, as I try with most singers, to set the scene musically, as though I were underscoring a sequence in a film. In Frank's case I can let my imagination run a little more freely, and if he feels I have caught the right mood in the introduction I have written, he is quick to acknowledge it. His awareness may only be a quick blue look, accompanied by a smile or a wink. But the fact is unmistakable that once again the magic of understanding and agreement have taken place and all is well.

I'd like to return to a point that I briefly touched on in Chapter XII.

Somewhere along the line, arrangers developed the idea of using the opening phrase of the song as material for the introduction of that song. Many years ago I remember old John McCormack records starting with the last eight bars of the song, and perhaps that ancient construction formed the background for this approach.

To my way of thinking, the use of a phrase from the melody of the song effectively ties the arrangement and the song together on one hand and on the other deprives the arranger of the few bars of music which were his to express his **own** originality.

Moreover, many singers I have worked for expressed their thought on the subject in no uncertain terms, their view being that, if the orchestra stated the theme before they sang it, their singing of the opening phrase would be anticlimactic and therefore would lose some of its punch. We can skip backward several paragraphs in this chapter to the dissertation on singers' "egos" in order to find an easy explanation for this attitude.

I have found the best way to arrive at an appropriate intro is to dream up some sort of a "catchy" phrase which fits the mood of the song to be arranged. If, in addition to using it as an intro, the same phrase can be restated from time to time during the arrangement (perhaps as a fill in the seventh or eighth bars of the song, the fifteenth and sixteenth bars, or anywhere for that matter), the subject of cohesion will be attended to in a most effective and original manner, and the singer can have his or her heart's desire, namely: first crack at the melody!

As an afterthought, the subject of harmonizing someone else's melody arises.

Some arrangers seem to take a strange delight in changing the printed harmonies completely around, to a degree which sometimes leads me to suspect that some type of "arranger's ego trip" is in progress.

I disapprove of any change in the original harmonies which represent a change in the overall direction of the song and its harmonic structure. Moreover, if a change is to be made, it should be an unmistakable improvement over the original, not just an exercise in "alternate chords." In the old days at the studios, when working on the arrangements for a movie, the composer of the songs for that film would look askance on **any** deviation from the printed chords, and would, if necessary, ask the legal department of the studio to intervene on his behalf. I do not side altogether with the songwriters in this type of controversy, since some of them were semi-illiterate musically and were even known to brag of their technical shortcomings as being the reason they would write something the "common man" or "your average audience" could leave the theater whistling. It seems to be a situation where the arranger could exert a bit of diplomacy when dealing with a composer whose choice of chords is not the tastiest. If the arranger can make the composer realize that he, the arranger, is not trying to crowd him, has no ambition to share his performance rights, and that his only wish is to make a presentation of the songwriter's creation that is more pleasing to the ear, then he will have achieved two important goals: mutual respect and understanding.

Handwritten musical score for a symphony orchestra, page 182. The score is written in 2/4 time and features a key signature of one flat (B-flat). The instruments are arranged in a standard orchestral layout, with woodwinds and strings on the left, brass and percussion in the center, and strings on the right.

The score is divided into measures, with measure numbers 5, 6, 7, and 8 indicated above the staves. A circled "I" symbol is present in the top right corner.

The instruments and their parts are:

- Flute 1+2
- Oboe 1
- Eng. Horn
- Clarinet 1+2
- Bassoon 1+2
- Trumpets
- 3 Horns
- Trombones
- Perc
- Drums
- Harp
- Violins A
- Violins B
- Violins C
- Guitar
- Viola
- Cello
- Bass
- CELLO

The score includes various musical notations such as notes, rests, and dynamic markings. The bottom of the page shows the beginning of measure 9.

9 10 11 12

FLUTE 1+2

OBOE

ENG. HORN

CLAR. 1+2

BASS 1+2

Trumpets

3 Horns

Trumbones

Perc.

Drums

HARP

A

Violins

B

C

GUINAR

Viola

Cello

Bass

CELESTE

Handwritten musical score for measures 13 through 16. The score is written for a large ensemble, including woodwinds, brass, percussion, strings, and guitar. The key signature is one flat (B-flat), and the time signature is 9/8. The measures are numbered 13, 14, 15, and 16 at the top of the page.

Measures 13-16:

- FLUTE 1+2:** Measures 13-14 are rests. Measure 15 has a melodic line. Measure 16 is a rest.
- OBOE 1:** Measures 13-14 are rests. Measure 15 has a melodic line. Measure 16 is a rest.
- ENG. Horn:** Measures 13-14 are rests. Measure 15 has a melodic line. Measure 16 is a rest.
- CLAR. 1+2:** Measures 13-14 are rests. Measure 15 has a melodic line. Measure 16 is a rest.
- BASSO 1+2:** Measures 13-14 are rests. Measure 15 has a melodic line. Measure 16 is a rest.
- Trumpets:** Measures 13-14 are rests. Measure 15 has a melodic line. Measure 16 is a rest.
- 3 Horns:** Measures 13-14 are rests. Measure 15 has a melodic line. Measure 16 is a rest.
- Trombones:** Measures 13-14 are rests. Measure 15 has a melodic line. Measure 16 is a rest.
- PERC:** Measures 13-14 are rests. Measure 15 has a melodic line. Measure 16 is a rest.
- Drums:** Measures 13-14 are rests. Measure 15 has a melodic line. Measure 16 is a rest.
- HARP:** Measures 13-14 are rests. Measure 15 has a melodic line. Measure 16 is a rest.
- Violins:** Measures 13-14 are rests. Measure 15 has a melodic line. Measure 16 is a rest.
- GUITAR:** Measures 13-14 are rests. Measure 15 has a melodic line. Measure 16 is a rest.
- Viola:** Measures 13-14 are rests. Measure 15 has a melodic line. Measure 16 is a rest.
- Cello:** Measures 13-14 are rests. Measure 15 has a melodic line. Measure 16 is a rest.
- Bass:** Measures 13-14 are rests. Measure 15 has a melodic line. Measure 16 is a rest.
- CELESTE:** Measures 13-14 are rests. Measure 15 has a melodic line. Measure 16 is a rest.

Handwritten musical score for measures 17-20. The score is written for a large ensemble, including Flute 1 & 2, Oboe 1, English Horn, Clarinet 1 & 2, Bassoon 1 & 2, Trumpets, 3 Horns, Trombones, Percussion (Cym., Soft Mallet), Harp, Violins (A, B, C), Viola, Cello, Bass, and Double Bass. The music is in 2/4 time and features a key signature of one flat. Measure numbers 17, 18, 19, and 20 are indicated at the top. The score includes various dynamic markings (mf, f, p, cresc, dim) and performance instructions such as "CIRCULAR SWIRLS" and "ADD CRESC...". The notation is handwritten and includes many slurs and ties.

(2) (12) (13) (24)

FLUTE 1+2
OBOE 1
ENG. HORN
CLAR. 1+2
BASS 1+2
Trumpets
3 Horns
Trombones
Perc.
Drums
HARP
Violins
GUITAR
Viola
Cello
Bass
CONTRABASS

(25)

D.C.

CODA

(26)

(27)

187

Musical score for measures 25, 26, and 27. The score is divided into three sections by vertical lines corresponding to the measure numbers.

Measures 25 and 26: The score is marked "D.C." (Da Capo). The instruments listed on the left are:

- FLUTE 1+2
- OBOE 1
- ENG. HORN
- CLAR 1+2
- BASS 1+2
- Trumpets
- 3 HORNS
- Trombones
- PERC.
- Drums
- HARP
- Violins A
- Violins B
- Violins C
- GUITAR
- Viola
- Cello
- Bass
- CELESTE

Measure 26: A circled "F" with a cross through it is written above the first staff. The word "RALL" (Ritardando) is written below the staff for OBOE 1, ENG. HORN, CLAR 1+2, BASS 1+2, Trumpets, 3 HORNS, Trombones, PERC., Drums, HARP, Violins A, Violins B, Violins C, GUITAR, Viola, Cello, Bass, and CELESTE.

Measure 27: The word "RALL" (Ritardando) is written below the staff for OBOE 1, ENG. HORN, CLAR 1+2, BASS 1+2, Trumpets, 3 HORNS, Trombones, PERC., Drums, HARP, Violins A, Violins B, Violins C, GUITAR, Viola, Cello, Bass, and CELESTE.

Tempo 1 (28) (29) (30) (31)

FLUTE 1+2 *mf*

OBOE

ENG. HORN

CLAR 1+2

BSSN 1+2

Trumpets

3 HORN *10* *1+2 Soprano* *p*

Trombones

Perc

Drums *Tempo 1*

HARP

Violins A *p* *pp*

Violins B *p* *pp*

GUITAR

Viola *p* *pp*

Cello *p* *pp*

Bass *p* *pp*

CELESTE

Handwritten musical score for measures 32 and 33. The score is divided into two systems by a double bar line. The instruments listed on the left are:

- FLUTE 1+2
- OBOE 1
- ENG. HORN
- CLAR. 1+2
- BASS
- Trumpets
- 3 HORNS
- Trombones
- Acc.
- Drums
- HARP
- Violins
- VIOLA
- CELLO
- BASS
- CELESTE

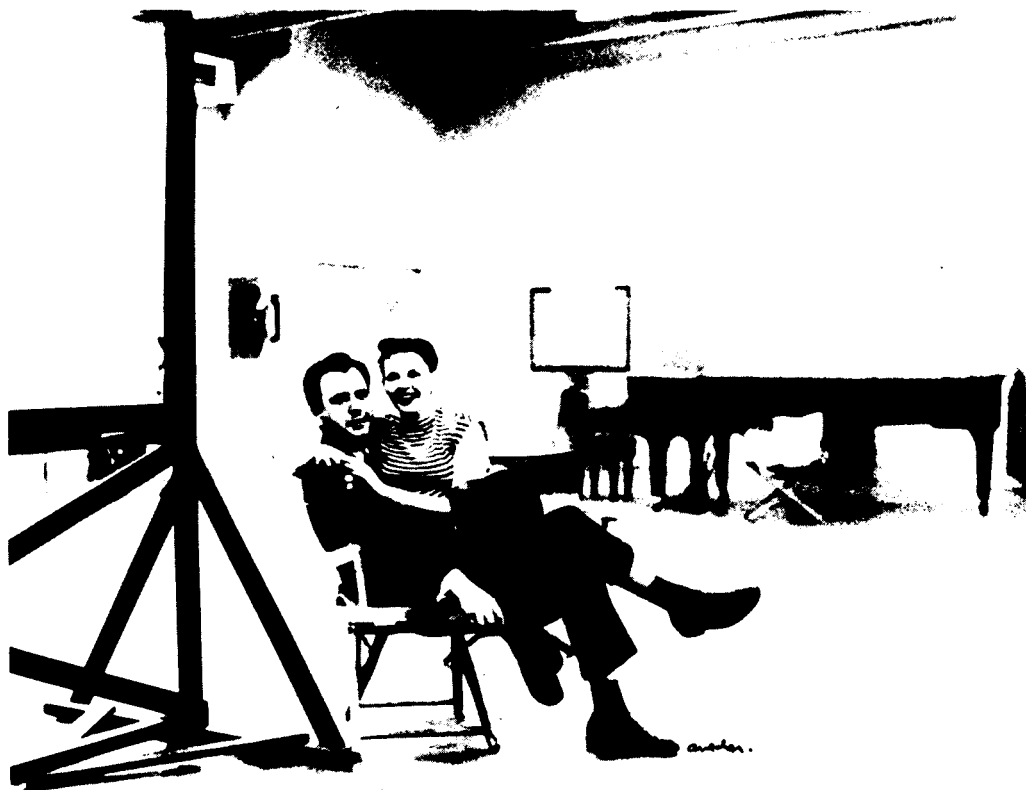
Measure 32 (circled) shows various musical notations, including rests, notes, and dynamic markings like *Beats* and *ARCO*. Measure 33 (circled) continues the notation. The score includes a variety of musical symbols such as clefs, key signatures, and dynamic markings.



NELSON with ELEANOR ROOSEVELT



with FRANK SINATRA



Richard Avedon photo credit

NELSON with JUDY GARLAND



with NAT KING COLE



NELSON with ELLA FITZGERALD



with OSCAR PETERSON

BIOGRAPHY

I was born in Hackensack, New Jersey, on June 1, 1921. My mother was of Alsatian and Spanish parentage, my father English-Irish and Dutch. From my mother, I inherited a fondness for the classics, both literary and musical; from my father, a love and understanding of popular music. My father was a commercial artist, with music as an avocation, but both parents encouraged me to follow music as a profession, though my mother had hoped I would be involved more with the classical composers than with the popular music which became my musical and professional life.

When I was eight, I started piano lessons with Terry Stenz, a burden later assumed by Ralph Stoughton and Howard Kasschau. Somewhere around the time I was fourteen, my attention shifted to the trombone, perhaps because it was my father's instrument. I had lessons on this instrument from Professor Dittamo of Paterson, New Jersey. After eight lessons the Professor told me not to come again, since my dad had not paid him anything so far. It seems his fee was one dollar a lesson and, this being 1935, **dimes**, much less **dollars**, were difficult to come by for anything more esoteric than a loaf of bread! My poor father, though well intentioned, found that he could not afford the extra expense and so, abruptly, trombone lessons ceased. I was a member of the Ridgewood (N.J.) High School Band and Orchestra, and in 1939, went to Atlantic City as third trombonist of the New Jersey State Orchestra. Eric De Lamarter was the conductor and we played such pieces as the **Rienzi Overture** by Wagner and Dvorak's **New World Symphony**.

In my last year of high school I persuaded my parents to let me stay in Rumson, New Jersey, a little village on the Shrewsbury River where, for several summers previously, we had rented a few rooms in an old house. My mother stayed in Rumson to keep an eye on me and my father drove down on weekends from his studio in Ridgewood. The purpose of the move was to enable me to play with some of the "Kid-bands" in the neighborhood, and there were several to choose from. It was during this period (1938-39) that I became friendly with Bill Finegan, whose family had lived in Rumson for years. I told him I was interested in arranging and he showed me how to go about writing some simple things for dance orchestra. I remember one of the first assignments he gave me was to write a chorus of "Swanee River" for five saxes (2 altos, 2 tenors and 1 baritone). A few months after I started lessons with Bill, he became an arranger for Glenn Miller, and our pupil-teacher relationship came to an end.

Two significant contacts with classical music remain in my memory from this period. The first of these was a gift from my aunt Dorothy. It was an old-fashioned windup portable victrola and with it came a few recordings, among them a huge Victor Red Seal disc, with **Reflets dans L'eau** on one side and **La Cathedrale Engloutie** on the other, two Debussy piano compositions performed by none other than Ignace Jan Paderewski. I probably blunted a bushel of cactus needles exploring the wonders of these two treasures.

The second contact involved my father's driving down to Rumson from his studio in Ridgewood each weekend to visit my mother and me, and parking his car under a tree near the old house in which we lived. This house had no electricity, only gas, which was used for cooking and for lighting the filamented wall fixtures which illuminated the rooms. Since transistor radios were non-existent at that time (1937-39) my father's car radio was a precious source of music to me. I would go outside after dinner, crouch in the aperture left by the half-opened car door, and listen by the hour to the wonders of the Philadelphia Orchestra at Robin Hood Dell, and to whatever other music was available. At least once every summer my father's Monday morning departure for Ridgewood was delayed by the necessity of recharging a dead battery. In contrast, however, my personal musical battery was always "super-charged" by the time the week-end was over.

On June 1, 1940, my 19th birthday, I left home to travel with my first dance band as trombonist and arranger, and proceeded to spend the next few years in that capacity, with time out for the Merchant Marine and the Army. The year which elapsed between the sailor suit and the army fatigues was taken up most profitably (from the standpoint of musical experience) with the Tommy Dorsey Orchestra. I learned a great deal from Tommy and his staff of fine arrangers. At the time I was with him, he employed Eddie Sauter, Hugo Winterhalter and Freddie Norman - all very skillful, and each totally different in style from the other. Their contribution to Tommy's music library joined the efforts of such greats as Sy Oliver, and by that time (1944), Bill Finegan, thereby making the Dorsey Orchestra a wonderful place for a young arranger to listen and learn. Tommy was pleasant to me in his own particular gruff way and quite supportive of my budding career as an arranger. He was, and always will be, one of my heroes.

Upon leaving the Army in June 1946, I returned to New York City whence I had been drafted, and worked around town for five months as an arranger, writing for such bands as the Elgart Brothers and Elliot Lawrence. But the West Coast intrigued me and I was able to secure a job arranging for Bob Crosby, who was headed for California. I arrived in Los Angeles on December 5, 1946, and have made it my home ever since.

My early days in Los Angeles were occupied with learning my craft in greater detail. I was fortunate to be able to take lessons with Mario Castelnuovo-Tedesco, an Italian composer who was forced to flee his native Florence as World War II threatened. He supported himself, his wife, and two young sons by teaching composition and symphonic orchestration to young musicians aspiring to a career in films. His method of teaching orchestration was to have his young pupils study a piece written for piano and assign the voices, or lines, in the piano solo to various sections or solo instruments of the orchestra. I found this process to be a most instructive and broadening experience, since many of his pianistic examples were works of such brilliant and diversified composers as Albeniz, Schubert, Brahms, Debussy and many more whose names I have forgotten. Without his tutelage I would not have achieved the skill and fluency I later developed in handling large groups of instruments. At the same time I was studying with Mr. Tedesco, I was also receiving instruction from Victor Bay, onetime staff conductor at CBS Radio in New York City. Victor's musical background included a period of study at Russia's St. Petersburg Conservatory under Glazounov and a stint in the violin section of the Philadelphia Orchestra. I learned much about musicology and at least the rudiments of conducting under his tutelage.

During my study with Victor Bay and Mario Castelnuovo-Tedesco, I was supporting myself and my family writing arrangements for NBC Radio, and by occasional assignments from Victor Young, a very popular song writer and film composer of the 40's and 50's. The pace of my commercial assignments suddenly and dramatically quickened after having done a couple of arrangements for Nat Cole recordings, namely **Mona Lisa** in 1950 and **Too Young** in 1951. These two efforts started me on my way and led eventually to my doing most of Nat's work at Capitol Records, this time as the conductor of the orchestra, with my name printed on the record label, not as an anonymous arranger.

From my vantage point as virtual "music director" of Capitol Records from 1951 to 1962, it was a logical step to be introduced to Frank Sinatra when he joined Capitol, and to conduct and arrange albums and singles for Frank, as well as for Peggy Lee, Judy Garland, Keely Smith, Dean Martin and many others. In addition, I arranged and recorded several instrumental albums and singles, with **Lisbon Antigua** becoming a gold record in 1956.

I was quite active at the same time in the early days of TV, both live and filmed, notably **Profiles In Courage** (a serial dramatization of the John F. Kennedy book), **The Untouchables**, **Route 66**, and **Naked City**. I composed the music for some thirty theatrical features, including **Lolita** (1961) and **The Great Gatsby** (1974), a film for which I received an "Oscar."

I was the music director for the inauguration of John F. Kennedy in 1961 and, in the same capacity, presided over the 100th birthday ceremonies at the Beverly Hilton in Los Angeles for Adolph Zukor, pioneer film producer. In 1985 I was again music director for another inauguration, this time for President Ronald Reagan.

Musical assignments have taken me to various parts of the world, most often colorful and unique. They include Stockholm (in the dead of winter!), Rio de Janeiro, Canada, Mexico, Buenos Aires (for a tango festival), Tokyo (as a judge in a song festival) and countless trips to London. Naomi, my wife of fourteen years, says we've been on the move so constantly during our marriage that she looks forward to a long, unbroken stay at home. My own feelings on the subject are somewhat mixed. As much as I look forward each time to return to Bel-Air, I never quite conquer the wanderlust. I always cherish the hope that the phone will ring and propel me in some totally new direction.

Based on my reputation as an arranger, I was assigned to do the scoring of several of the Hollywood film musicals, namely, **Carousel**, **Pajama Game**, **High Society**, **Pal Joey** and **Guys and Dolls**. I was music director and arranger for **L'il Abner**, **Paint Your Wagon**, **Can Can**, **Robin and The Seven Hoods**, **How To Succeed in Business Without Really Trying** and **On A Clear Day You Can See Forever**. In recent years the artistic change in musical approach to recordings, plus the equally astounding transition of feature films and TV has had its effect on the type of activity in which I find myself involved. Personal appearances in the form of concerts and musical events occupy much of my time.

In 1983 I completed an album with Linda Ronstadt, one of the few "rockers" with the musicianship and voice to sing standard ballads. Surprisingly, the sales of the album have been sensational. It seems to appeal not only to her youthful following but also to people of 40 and over who appreciate her interpretation of the music they know and love. Part of the promotion of the album involved a tour of four cities - New York (Radio City Music Hall), Los Angeles (The Greek Theatre), Concord, California (The Concord Pavilion), and Costa Mesa, California (The Pacific Amphitheatre).

Each concert was sold out, and Linda's and my efforts were always received with great enthusiasm by audiences ranging in age from 20 to 60. Instead of Linda's rock group, we had a "mini" symphony orchestra of fifty musicians, playing arrangements of the type I introduced in the 50's and 60's.

My wife Naomi and I are constantly fascinated by the way things change, and then again, using the Linda Ronstadt album as an example, how much stays the same.

Nelson Riddle
Bel-Air, California
April, 1985

ACKNOWLEDGMENTS

My thanks to Robert Hamner for his permission to reproduce the timing sheet, sketch, and score from a scene in his film "Margin for Murder."

I am indebted to Harry Klee for showing me the "ins and outs" of the flute, to Champ Webb for helping me with the notes on the oboe, and to Don Raffell for the material on the clarinet. My friendship with Don and Harry goes back to December, 1940, when I joined the Charlie Spivak orchestra. My acquaintance with Champ came a little later, 1947, when I joined the NBC staff orchestra in Hollywood.

The late Shorty Sherock aided me in writing about the trumpet, and Cappy Lewis introduced me to the electronic aspects of the same instruments.

Lou Anne Neill made me aware of how little I know about the harp, hence my timely advice to young arrangers to befriend a harpist as soon as possible so that she (or he) can help render the harp parts trouble-free.

Barbara Simons and Lenny Atkins, a friend of the "Dorsey Days" (1944), aided me considerably with the chapter on strings, and John Berkman guided me in my brief excursion into the perilous realm of electronic keyboard instruments.

Emil Richards made it possible for me to include the informative chapter on percussion. Norm Jeffries clarified the subject of "sit down drums." And Betty Joyce steered me in the direction of the textbook on vocal arranging written by her late husband, Jimmy. Both Betty and Jimmy have been my good friends for many years, and have organized vocal groups and choirs when I need them. Jimmy's book, **A Guide to Vocal Arrangements**, is available from First Place Music Publications, 1247 Lincoln Boulevard, Santa Monica, California 90041.

Irene Atkins (Lenny's wife and another dear friend of Naomi and me) was an expert on filmography and an author in her own right. It was she who cheerfully set about the monotonous task of typing the manuscript, pausing from time to time to clarify any rambling verbiage.

Vern Yocum, my librarian since 1951, emerged from retirement just long enough to skillfully copy the many musical examples contained in the book and then, not unlike the groundhog, returned to the quiet non-pressure life every copyist yearns for. Terry Woodson, Vern's successor, completed the task.

To all those mentioned above, plus a few others I must have forgetfully omitted, my sincere thanks!

POSTSCRIPT

POSTSCRIPT

There seemed to be no graceful way to insert chronologically the arrival of each of my six children into this brief biographical sketch. Nevertheless, each of the six kids belongs in the story, since they occupied, and still do, much of my thoughts and efforts. They are, in order of arrival:

Nelson Jr., "Skip"	1947
Rosemary	1948
Christopher	1950
Bettina	1954
Cecily	1960
Maureen	1962

They are the best bunch any dad could wish for, and a great enrichment to my life.

Billie Holiday, Frank Sinatra, Louis Armstrong and Nelson Riddle stand, in my judgement, at the spine of American popular music. Nelson's voice, like the others, changed our thinking, pushed us forward, addressed us with startling originality. The scope of his talent dwarfs all other arrangers. His obvious pleasure in delegating authority-to the oboe, flute, bass trombone, muted trumpet, organ, bassoon, vibraphone-while still remaining in full control of his administration; his overseeing without overstating the strings; his own private melodies that whisper respectfully under the Gershwin or Kern or Rodgers on the table; his out and out passion that informs every bar of every arrangement. All these things are actively combined in the immense body of work that stands as one of the great achievements in American arts. To find that Nelson, personally, is a droll, tender, reclusive and richly intelligent fellow, adds a special kind of luster to my fondness for him, devotion to him. The book you are holding is about music. There is no more qualified an author available. Anywhere.

Jonathan Schwartz
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265 Secaucus Road • Secaucus, N.J. 07094

 A Warner Communications Company

\$26.95